The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE;

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2269.—VOL. XLIX. LONDON, SATURDAY, FEBRUARY 15, 1879. [WITH SUPPLEMENT.] {PRICE ..... SIXPENCE. PER ANNUM, BY POST, £1 4s.

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER AND MINING SHARE DEALER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of Mining Stocks and Shares (British and Foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

BUSINESS negociated in Stocks and Shares not having a general market value.

ACCOUNTS OPENED FOR THE FORTNIGHTLY SETTLEMENT

A Daily Price List, issued at 5 P.M., giving latest Quotations up to close of Market, and every Friday a general List containing closing prices of the week.
MINES INSPECTED.

BANKERS: CITY BANK, LONDON; SOUTH CORNWALL BANK, ST. AUSTELL.

SPECIAL DEALINGS in the following, or part:—

20 Bettws-y-Coed.	25 Herodsfoot.	100 Penstruthal, 2s. 6d.
20 Chapel House, £2 6s	25 Hultafall (off. wntd.)	100 Pestarena, 4s. 6d.
50 Chontales, 9s. 9d.	35 Leadhills, £1¼.	50 Parys Moun., 10s.
40 Colorado, 31s.	50 Llanrwst.	45 Richmond, £9½.
25 Devon Consols, 30s.	25 Morfa Du, 16s.	40 Roman Grav., £6¼.
20 East Van, £1¾.	10 Pateley Bridge, £1½.	50 Rookhope, 5s.
55 Flagstaff, 6s. 9d.	75 Pandora, 8s.	50 Tankerville, £2.

SPECIAL BUSINESS in HERODSFOOT Shares.

*** SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS ON DEPOSIT OF TWENTY PER CENT.

RAILWAYS—SPECIAL BUSINESS.
FOREIGN BONDS—SPECIAL BUSINESS.
Fortnightly accounts opened on receipt of the usual cover.
JAMES H. CROFTS, 1, FINCH LANE, LONDON.
ESTABLISHED 1842.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER,
44, THREADNEEDLE STREET, LONDON, E.C.
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description.
RAILWAYS, BANKS, FOREIGN and COLONIAL BONDS, TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS,
Accounts opened for the Fortnightly Settlement.
A Stock and Share List free on application.

MR. BUMPUS has SPECIAL BUSINESS in the undermentioned:—

25 Blue Tent, £2¼.	100 Glenroy.	150 Pestarena, 3s. 6d.
70 Birdseye Creek.	10 Great Laxey, £15½.	40 Parys Mount., 7s. 9d.
40 Colorado, 34s. 6d.	15 Herodsfoot.	10 Pateley Bridge.
100 Chontales, 10s. 9d.	50 Hultafall.	200 Penstruthal, 2s. 9d.
5 Cape Copper, £2 8¾.	40 Javali, 4s. 6d.	15 Richmond, £9 18s. 9d.
50 Don Pedro, 20s. 6d.	35 Kapanga, 12s.	10 Roman Grav., £6¼.
20 Devon Cons.	50 Leadhills, 34s. 6d.	5 So. Frances.
3 Dolcoath, £21¼.	40 Llanrwst.	70 Tyn-y-Fron.
15 East Van, 39s.	20 Mellanear, £4 3s. 9d.	20 Tankerville, 41s. 6d.
10 East Pool.	70 Marke Valley, 9s.	10 Van, £16¾.
40 Eberhardt, £3 13s. 9d	30 New Quebrada, 31s 6d	25 Wh. Grenville.
25 Frontino, £2 9s. 6d.	20 Pandora, 8s.	20 W. Pateley Bridge.
	50 Port Phillip, 12s.	

OFFERS WANTED for the following Shares:—70 Chapel House Colliery (£5 each, fully paid); 10 Yarmouth Tramway (£10 each, fully paid); 10 D'Eresby Consols; 50 Wheal Crebor; 50 East Chiverton; 50 North Laxey; 20 Wye Valley; 30 St. Harmon; 50 South Cwmystwith; 50 Antioquia (Frontino); 25 Gold Run.

*** DON PEDRO.—A good business has been done in these shares during the past week. Present price, 19s. to 21s. The market closes firm, with an upward tendency.

IMPORTANT.—Owing to the general depreciation which has taken place during the past few months, many really SOUND STOCKS and SHARES may now be secured on very advantageous terms. Investors should, therefore, embrace the present favourable opportunity of purchasing before the inevitable reaction sets in.

A complete "List of Investments" for the present month (containing latest prices and a large amount of useful information) may be obtained free on application to Mr. BUMPUS.

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

WILLIAM HENRY BUMPUS, SWORN BROKER.
Offices: 44, Threadneedle Street, London, E.C.
BANKERS—The NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

MESSRS. JONES AND HOUSTON, 25, CROSBY HALL CHAMBERS, LONDON, E.C.
STOCK AND SHARE DEALERS.

DON PEDRO.—The last reports from this mine are startling. The average value of the lode at the deepest point is estimated at 152 oits. to the ton (an oitava represents 8s. 6d.) Should the wheel be enabled to cope with the water, these shares will probably touch £5 before long. We understand that new machinery has been received at Rio for the strengthening of the wheel, and is probably on the mine by this time.

RHYDALUN.—This is one of the promising Lead Mines in North Wales, and making large profits through drivages and sinking alone, leaving the reserves intact. Bankers: London and Provincial.

MR. E. J. BARTLETT, BRITISH AND FOREIGN STOCK AND SHARE DEALER,
No. 30, GREAT ST. HELEN'S, LONDON, E.C.

Post free, One Shilling, Eleventh Edition,
"HOW TO INVEST
Forwarded on application.

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Mr. THOMPSON transacts business in every species of Stock Exchange and Mining securities.

Mr. THOMPSON affords reliable information to investors, and can give, when desired, a list of first-class Stocks and Shares, yielding 4 to 10 per cent. dividend upon present prices.—Mr. THOMPSON'S weekly Circular may be had on application.

MR. GEORGE BUDGE, STOCK AND SHARE DEALER
9, GRACECHURCH STREET, LONDON, E.C. (Established 26 years)
ALL BUSINESS TRANSACTED FREE OF ANY CHARGE FOR COMMISSION.
Notice to Investors and Speculators.

Mr. BUDGE has SPECIAL BUSINESS in—

150 Almada, 3s. 6d.	40 Devonport and Tiverton Brewery.	5 Minera, £8½.
50 Birdseye Creek, 12s. 6d	25 Grogwinion, £2 6s. 9d	35 Monydd Gorddu.
100 Bodidris.	20 Gawton, 5s. 6d.	100 Parys Mount., 9s.
35 Chapel House, £2¼.	100 Glyn.	35 Phœnix, £3½.
35 Cakemore, £3¾.	30 Hornachos, £8¾.	25 Red Rock.
100 Cambrian.	50 Hultafall.	110 Tamar Silver-lead and Fluor-spar.
100 Chicago, 17s. 9d.	60 Herodsfoot.	15 Van, £16.
5 D'Eresby Cons., £7½.	100 Kapanga, 11s. 9d.	20 West Chiverton.
100 Don Pedro, 19s. 6d.	70 Llanrwst.	65 Wheal Crebor, 9s. 6d.
3 Dolcoath.	100 Lead Era.	50 Wheal Uny, 10s.
60 East Caradon, 5s. 6d.	80 Marke Valley, 7s. 9d.	30 West Wye Valley.
100 Exchequer, 4s.		

BUYERS or SELLERS of any of the above, or holders of any Stocks or Shares not readily marketable, will do well to apply to Mr. BUDGE.
SPECIAL BUSINESS in Frongoch shares as Buyer or Seller.

BRITISH AND FOREIGN MINES.

SHAREHOLDERS and INVESTORS desirous of PURCHASING or SELLING SHARES in COPPER, TIN, LEAD, GOLD, or SILVER MINES can do so at market prices, and obtain information regarding the same on personal application, or by letter, of—
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54, OLD BROAD STREET, LONDON, E.C.
Telegraphic Messages punctually attended to.

MR. ALFRED E. COOKE,
STOCK AND SHARE DEALER,
76, OLD BROAD STREET, LONDON, E.C.
ESTABLISHED 1853.

1879.—FOR PROFITABLE SELECTIONS, INVESTORS should read the NEW YEAR'S NUMBER of the "INVESTORS' GAZETTE." Post free Three Stamps; quarterly subscription, 2s. 6d.

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Mr. STOCKER Transacts Business in all Stock Exchange Securities.
[Established 1848.]

BUSINESS in the FOLLOWING:—

Colorado, 35s.	Herodsfoot, £3¼.	Rossa Grande.
Chontales, 10s.	Hultafall.	South Frances, £8¾.
Chapel House, 40s.	Kapanga, 11s.	Tankerville, 42s. 6d.
Don Pedro, 19s. 9d.	Last Chance, 8s. 6d.	Telegraph Construction.
East Van, 37s. 6d.	Pateley Bridge. 22s, 6d.	United Mexican.
Eberhardt, £3⅞.	Parys Mountain, 8s. 9d	Van.
Frontino, £2½.	Roman Gravels, £6¾.	West Wye Valley.
Great Laxey, £15½.	Richmond, £9 18s. 9d.	Wheal Peevor, £8.

BANKERS: LONDON AND WESTMINSTER.

FERDINAND R KIRK, 5, BIRCHIN LANE, LONDON, E.C.

Has BUSINESS in—

Colorado.	Leadhills.	Richmond.
Don Pedro.	Llanrwst.	Sierra Buttes.
Eberhardt.	Port Phillip.	St. Harmon.
Gold Run.	Pestarena.	Wye Valley.

"THE WEEK."—A SEPARATE EDITION from that which appears in the *Mining Journal* is published every Wednesday evening, containing "Notes and Hints on the Stock Markets," with Closing Prices. May be had on application.
Bankers: London and Westminster, Lothbury.

MR. J. ROSEWARNE, 3, COPTHALL BUILDINGS, LONDON, E.C.

Has BUSINESS in—

Bettws-y-Coed	Gawton	Richmond
Cakemore	Great Laxey	Roman Gravels
Chontales	Gunnislake.	South Wheal Frances
Colorado	Herodsfoot	Van
D'Eresby Mountain	Hingston Down	West Chiverton
Don Pedro	Llanrwst	Wheal Crebor
Eberhardt	Parys Mountain	Wheal Peevor

Money advanced on Mining Shares, or any other good Securities.

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Established in 1861.
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Investigations, Reports, and Valuations made of Coal, Iron, Slate, Pyrites, and other properties at home and abroad. Enquiries for Road and Railway Materials, Mining Plant, Pipes, Castings, &c. Plans, &c., of the most modern and economical mining appliances, fittings, and arrangements.
I have been long acquainted with the principal Coal and Ironworks in the North, with the Slate Quarries in North Wales, and for many years was Chief Engineer of the Tharsis Mines, Works, and Railway in Spain.

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CONTRACT DEPARTMENT, ADMIRALTY, WHITEHALL, S.W.,
5TH FEBRUARY, 1879.

TENDERS will be RECEIVED until Two o'clock on Tuesday, the 25th February, for the SUPPLY to Her Majesty's Dockyards, Dockyard Extension Works, Victualling Yards, Royal Marine Barracks, Royal Naval Hospitals, &c., of—
LAND ENGINE, FURNACE, METAL MILLS, SMITHERY, BRICK-BURNING, GAS, BAKERY, AND HOUSEHOLD COALS;
AND OF COKE.

The contracts are for specific quantities, and for forward delivery within stated periods.
TENDERS may be for the WHOLE or ANY PORTION of the quantities required.
Their Lordships do not bind themselves to accept the lowest or any Tender, and they reserve to themselves the power of accepting any part of a Tender.
Forms of Tender, containing all particulars, may be obtained on personal application at this office, or by letter, addressed—Director of Navy Contracts, Admiralty, Whitehall, S.W.
Tenders should be addressed—Director of Navy Contracts, Admiralty, Whitehall, S.W., and marked in the left-hand corner "Tender for Coals."
FRANCIS W. ROWSELL, Director of Navy Contracts.

EXHIBITION OF SCIENCE APPLIED TO INDUSTRY.—PALAIS DE L'INDUSTRIE, PARIS, 1879.
ENTRIES OF BRITISH GOODS CLOSE 28TH FEB., 1879.
The Secretary has awarded to Mr. J. WALTER PEARSE, Engineer, Technical Interpreter, and Translator, 49, RUE DE PASSY, PARIS, the privilege of PLACING ALL MINING AND ENGINEERING EXHIBITS entrusted to his care in juxtaposition, so as to facilitate their representation.
For all information apply to—
MESSRS. EMILE CASPAR AND CO.,
73, GREAT TOWER STREET, E.C.,
Authorised Agents for Great Britain.

MR. CHARLES THOMAS,
MINING AGENT, STOCK AND SHARE DEALER,
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MR. ALFRED THOMAS.
MINING AGENT, AND STOCK AND SHARE DEALER.
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WANTED TO PURCHASE, 100 EAST VAN. Sellers please state lowest price.

MR. EDWARD ASHMEAD, 62, CORNHILL, LONDON,
LONDON MINE AGENT, ACCOUNTANT, AND AUDITOR.

MR. EDWARD BREWIS, STOCK AND SHARE DEALER,
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Buyers or Sellers of Mine Shares, Railways, Foreign Bonds, and Miscellaneous descriptions of Stock and Shares may send their orders, and have their business promptly attended to for immediate cash, or the fornightly account current, or for a deferred settlement.
Bankers: National Provincial Bank of England.

MR. W. MARLBOROUGH, 29, BISHOPSGATE STREET,
LONDON, E.C. (Established 22 Years.)
BUYER.

100 Don Pedro.	25 East Van.	20 Eberhardt.
25 Tankerville.	100 Javali.	30 Frontino.
30 Rookhope.	15 Leadhills.	Halcomb Sack, £10 p.

SELLER.

10 Devonport and Tiverton Brewery.	Pestarena Preference.	Parys Mountain.
Hultafall.	Cambrian.	N. Zealand Kapanga.
Caron.	Chapel House.	West Chiverton.
	East Caradon.	Wheal Crebor.
	Exchequer.	

SPECIAL.

100 Aberdaunant.	40 Pestarena.	5 Minera.
5 Don Pedro.	3 Van.	15 Richmond.
40 Flagstaff.	10 Roman Gravels.	200 Rossa Grande.
20 Tankerville.	5 Lisburne.	20 West Craven Moor.

Shares bought and sold at net prices. Telegrams promptly attended to.

FOR SALE, the WHOLE or PART:—

20 East Van.	20 Hornachos.	120 Don Pedro North del Rey.
50 Hultafall.	100 Santa Barbara.	
100 Bettws-y-Coed.	2 Rhydalun.	100 Morfa Du.
100 Glyn.	100 Parys Mountain.	30 Gorsedd and Merllyn.

The above shares are for absolute sale, and at very reasonable prices.
Address, H. WILKINS and Co., 3, Heybourne Villas, Tottenham.

TO SHAREHOLDERS AND OTHERS.
LLANRWST LEAD MINE (LIMITED).
FOR SALE, ONE HUNDRED SHARES, in ONE LOT, for £95, or a little less might be accepted if AN OFFER WERE MADE.
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FOR SALE, A GOING COLLIERY IN LANCASHIRE, in connection with the London and North-Western Railway. Present output 200 tons per day.
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FOR SALE,—A DISCOVERY FOR EMBALMING THE DEAD. The whole body is preserved as when it died. Witnesses will testify it.
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WANTED, to accompany in a professional capacity an EXPLORING EXPEDITION likely to be absent from England for about four months from February, 1879, a FIRST-CLASS PRACTICAL MAN of long and varied experience in GOLD, COPPER, and OTHER MINING. Should also be able to Assay
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CAMPION'S MAP OF COLLIERIES, IRON, TIN, AND COPPER WORKS, RAILWAY STATIONS, AND DOCKS, IN THE MINERAL DISTRICT OF SOUTH WALES. Size, 3 ft. 9 in. by 2 ft. 8 in. Mounted and varnished on roller, or in convenient book form, price 21s.
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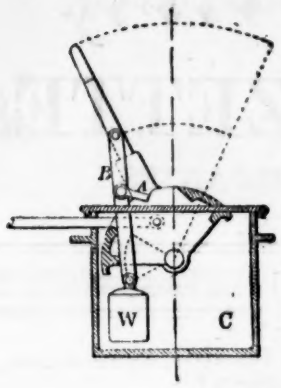
MR. WILLIAM BREDEMEYER, MINING, CONSULTING AND CIVIL ENGINEER, U.S. MINERAL SURVEYOR FOR UTAH AND IDAHO. NOTARY PUBLIC.
Geological examinations; reports on mining properties; surveys mines, railroads, and canals, and superintends the workings of the same. Prepares estimates and plans for opening and working mines. Expert on mining questions before the Courts.
Address, "P. O. Box 1157," Salt Lake City, Utah.

SWITCHES AND CROSSINGS,

FOR RAILWAYS AND TRAMWAYS, WITH PATENT LEVER BOXES.



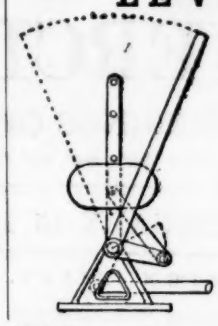
Hartley's Patent Lever Box,

REVERSIBLE UNDERGROUND,

Can be set to work either way; by turning over the catch at A and reversing the lever, the weight W swings over to C, the catch preventing its return until again turned over. The reversing is effected with very little power, as the weight is raised but a few inches in the operation.

HARTLEY'S PATENT

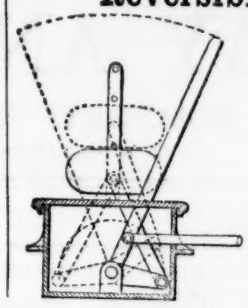
LEVER BOX.



Specially designed for Colliery Workings, or where economy of space is an object. Is reversible, and can be locked either way, or dead-locked, so as not to work at all.

Hartley's Patent Locking and Reversible Lever Boxes,

HALF UNDERGROUND,



Will set over both ways, can be locked so as to work on one side only, or the switches can be locked on either side, so as not to work at all. Takes up less room than any other, as the weight does not turn over; works equally well if full of water; can be supplied at the price of an ordinary lever box.

Tank Locomotives, Siding Stops, Wheels, Rails, Chairs, Spikes, Bolts,

AND EVERY DESCRIPTION OF PERMANENT WAY FITTINGS.

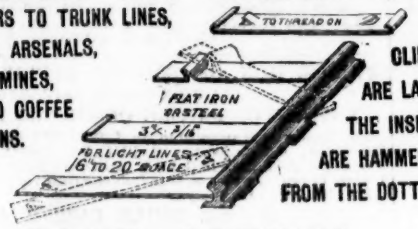
Iron and Steel Pit Cages, Wrought-iron Roofs, Headgears, Girders, Turntables, Patent Coal Tip, Boilers, Engines, Water Cranes.

HARTLEY and ARNOUX BROTHERS, Stoke-upon-Trent.

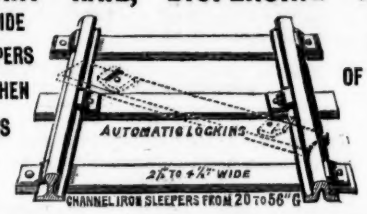
A NARROW GAUGE RAILWAY **—LEGRAND'S PATENT—** COMPLETE IN TWO PARTS, From £250 per Mile.

WROUGHT IRON SLEEPERS TO FIT ANY RAIL, DISPENSING WITH SPIKES AND ALL LOOSE PIECES.

FOR FEEDERS TO TRUNK LINES, QUAYSIDES, ARSENALS, FORESTS, MINES, SUGAR AND COFFEE PLANTATIONS.



THE OUTSIDE CLIPPING SLEEPERS ARE LAID FIRST, THEN THE INSIDE SLEEPERS ARE HAMMERED UP AS FROM THE DOTTED LINES.



7 MILLIONS OF THESE SLEEPERS ARE IN USE IN ENGLAND, FRANCE, GERMANY, BELGIUM.

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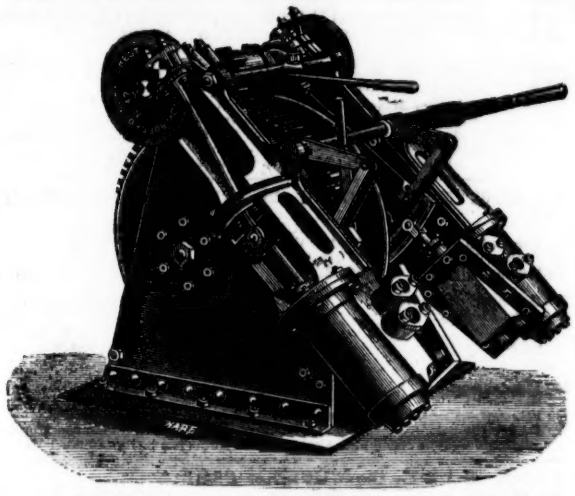
DRAWINGS & PARTICULARS ON APPLICATION. TO SAVE TIME, PLEASE GIVE GAUGE, WEIGHT OF RAIL AND KIND OF TRAFFIC.

IMPROVED PORTABLE UNDERGROUND

WINDING OR HAULING ENGINES



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DESIGNED FOR WORKING WITH COMPRESSED AIR, STEAM, OR WATER PRESSURE.

Specially designed to take up the least possible space.

BEST MAKE, STRONG, SIMPLE, AND CHEAP.

All made with two cylinders, to any size.
Single or double drum, as required.

Photographs and Estimates on application.

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NEAR CHESTER

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Makers of all kinds of Mining Machinery.

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SAMUEL DENISON & SON'S

WEIGHING MACHINES

ARE THE BEST IN THE MARKET FOR

ACCURACY, DURABILITY, AND DESIGN.

ECIALLY ADAPTED FOR COLLIERIES, MINES, IRONWORKS, BRICKWORKS, AND RAILWAYS.

SPECIALITE!!—Pit-bank Weighing Machines, with our latest improved Double Steelyard Indicator. NO LOOSE WEIGHTS. Simplest and most perfect ever brought out.

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WORKS:

Old Grammar School Foundry, Leeds

Iron Discoveries in Russia.—At a meeting of the Society of Mining Engineers held a few days since at St. Petersburg, M. Kontkevitch read a very interesting paper on the remarkable discovery of iron deposits made by him in the valley of the Dnieper last summer. The beds, according to his account, are 14 in number, and the layers vary in depth from 10 yards to 60, the intermediate one being about 20 yards deep. One of the beds he examined at the order of the Minister of Domains was three miles long, with an inclination from north to south. The whole of them are situated on the confines of the Kherson and Ekaterenoslav provinces, near the rivers Saksagan and Ingultse, and altogether, the iron deposits do not fall far short of eight milliards of poods, or 134,000,000 tons. The ore is of excellent quality, comprising the common red, the kidney, and magnetic, and the yield is rarely below 58 per cent., and often as high as 70. M. Kontkevitch, who is familiar with the best mining districts of Ooral and Siberia, declares that none of the mines he has visited can compare in richness with the beds at Krevoy Rog, and that for the future the latter must bear off the palm of being the finest in the empire. At present there is one great obstacle to the development of such vast mineral wealth. The nearest coal-beds are those of the Donetz Valley at a distance of 270 miles from Krevoy Rog, and a railway will have to be constructed to connect the one with the other before the iron can be touched. Besides the deposits of iron in Kherson, there are others in the province of Taurida, one of which, visited by M. Kontkevitch in the autumn, was found to consist entirely of magnetic ore, 26 yards deep, 600 yards long, and distant about 90 miles from the Donetz coal-fields. These discoveries on the river Dnieper and the shores of the Sea of Azoff, must, undoubtedly, have great influence on the future of the southern provinces, and, in time, give Russia a power in the Black Sea of a solid and substantial character. So long, however, as stategical railways, like those of the Caucasus or Central Asia, are allowed to push aside projects more conducive to the interests of the people, the magnificent treasures discovered by M. Kontkevitch, must continue in the same undeveloped state as at present.

FOREIGN MINING AND METALLURGY.

The Belgian Minister of Public Works has announced his policy in regard to the improvement of public communications question. The minister is of opinion that it is desirable to turn existing navigations to the best possible account, and that there is much to be done in this regard. The project for a canal from the Centre to Mons has been considered worthy, however, of immediate surveys, with which M. Morelle has been charged. Deliveries have been pretty well sustained during the week, but prices have remained stationary; competition seems to render intending buyers absolute masters of the market. M. Max Goebel, who published in 1869, and also in 1873, a map, showing the production, circulation, and consumption of Belgian coal, has just issued a similar map for 1877. A new canal from the North of France to Paris continues to be a good deal discussed by the coal trade of the northern French departments, and is expected to be secured. Some elaborate tables have just appeared, showing the price of coal in the Essen district. Coal does not appear to have been so low about Essen for 24 years as it was in 1878.

The Administration of the Dutch State Railways at Utrecht has just let a contract for 14 switches. Madame Frédérix, of Liége, submitted the lowest tender. Contracts are about to be let by the Administration of the Belgian State Railways for 28 turntables of 16 ft. diameter, and 25 others of 14 ft. 4 in. diameter, of the type in use upon the Northern of France Railway. This adjudication is to take place Feb. 19. Several foreign contracts for railway carriages and trucks have been recently proposed to Belgian industrials. Some new experiments have been made by M. Blondiaux, at the Thy-le-Chateau Works, with the Ponsard furnace, MM. Henri Schneider, of Creusot, and de Wendel, of Hayange, have assisted at these experiments, as have some English industrials.

Some small orders for iron have come to hand in the Haute-Marne, but they are only for re-assortments. These orders may be the prelude of a revival of affairs in the Spring, but there are no positive indications of this. Good mixed iron has been dealt in at 7*l.* 8*s.* to 7*l.* 12*s.* per ton, according to the works. A fair number of orders has been received in the Haute-Marne for iron wire. In the Loire-et-Rhone transactions have remained in the same quiet state; for some time past no important orders have been received. Every year at this time, however, a slackening in affairs is generally observed. The iron market, under these circumstances, has of course presented no improvement in the Loire-et-Rhone—in fact, orders appear to become more and more restricted. In the Ardennes there is now nothing very striking to report; 8*l.* per ton is now generally frankly accepted by the forgemasters of the Ardennes. In the Meurthe-et-Moselle rough pig for refining has no definitely determined quotation; it varies according to the works and according to the periods prescribed for delivery. No. 3 pig for re-casting is held at 2*l.* 16*s.* per ton. The three first classes of rolled iron have made 6*l.* 4*s.* per ton in the Meurthe-et Moselle.

Hinges, Joints, and Springs.—In connection with the effort now being made to utilise the power of compressed springs for the working of hand-driven rock-drills the series of Abridgments of Specifications relating to Hinges, Hinge-joints, and Door Springs, issued by H.M. Commissioners of Patents (price 8d.), is well worthy of perusal, for from the extremely small space usually available for a door spring requiring great strength and power the same character of spring would appear to be well suited for rock-drills. To this class of invention many of the most ingenious have turned their attention—a fact of which the reader is reminded amongst many others by the reference to the late J. G. Appold, whose invention connected with centrifugal pumps and other important industrial machines will cause his name to be long and favourably remembered. The Royal Society's obituary of Appold states with reference to his inventions that besides his more important contrivances he made some for mere amusement, and every part of his house bore testimony to the fertility of his imagination, and power of invention. Doors were made to open on approach, and to shut after the person had passed through; others locked themselves afterwards. He had contrivances also by which all the shutters of a room closed by the touch of a spring, and thus when associated with the regulator of a gas lamp caused a change from daylight to gaslight to the no small amusement of his visitors. All his numerous contrivances acted perfectly, even to the unimportant matter of his self-acting stable gates, which when once adjusted were so exact in their mechanism that they remained in use for years without requiring attention. The reader of the volume mentioned will find

blade, crescent-formed, elliptical, helical, india-rubber, spiral, and tortion springs described, which will give him a wide choice, and greatly facilitate the attainment of his object.

Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES.—No. CVII.*

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SECTION V.

At a height of about 36 ft. above the working scaffold a pair of stout beams are fixed, which are prolonged out at one side into the bore-house, and on the other into the open air. A pair of rails of the ordinary railway gauge are laid on these, on which a low strong frame, on four wheels, can be run out or into the bore-tower—so that the rods, boring tool, &c., in spite of their great weight and dimensions, can be readily handled. At a height of 50 ft. above the working scaffold four strong balks of wood are built into the tower, on which the plummer-blocks for the winding-pulley are placed. From these four beams of wood four iron rods pass down, and are fastened to the tram-beams, which latter cannot otherwise be directly supported in the vicinity of the shaft. About 4 ft. 6 in. below the winding pulley a scaffolding is placed, on which the workmen can stand whilst engaged in screwing and unscrewing the rods on to and off the swivel at the end of the rope.

The bore-house is a wooden structure, which serves as a shelter for the tools and rods, and as a workshop in which the necessary repairs can be executed. The engine-house at St. Vaast was likewise a wooden structure, and offers no special peculiarities. A boiler-house and smithy adjoin the engine-house.

At Styringen the tram-beams were placed 28 ft. above the pit-bank; two carriages ran along the tram—the one for carrying the sludger, and the other for carrying the rods and borer. This latter was arranged with a pair of grippers, somewhat similar to the guiding bore-tube shutter† we have described as used for supporting the boring-rods from the top of the guiding bore-tube. In this case it consisted simply of two rectangular plates of iron, one being fixed rigidly to the carriage frame, the other capable of sliding horizontally about a centre pin or bolt passing through one end. This plate could thus be placed in a position parallel to the first, when the slit between them is just wide enough to allow the rods to be inserted, except where the rods are enlarged to form the joints. These two plates then support the rods by the collar of the joints; in order to allow the joints to pass, and the carriage to be withdrawn altogether from above the shaft, the moveable plate can be pushed into a position at right angles to the fixed plate.

The shaft at Styringen passed through a somewhat loose sandstone in the upper part, and was here made rectangular in section, and timbered with the so-called Bolzenschrot timbering. A couple of stout beams were laid close over the mouth of the shaft, and provided with a pair of rails, on which a very strong carriage could be run backwards and forwards, being pushed over the mouth of the shaft immediately the borer, &c., were raised above the level of the mouth of the shaft, which was thus at other times covered in, preventing anything from falling down into the shaft. About a fathom below the mouth of the shaft, where the rectangular section passed into a circular one, the shaft was closed completely by folding doors (which opened upwards), except in the centre of the shaft, where a round hole was left sufficiently large for the sludger to pass through. These doors were made so strong as to serve at the same time as a working scaffold for the bore-master and the workmen who are engaged in rotating the boring apparatus. The boring-tower of Gelsenkirchen was about 45 ft. in height, the framework consisting of four inner and four outer legs tied together with horizontal and inclined struts and bearers. Except the cross-bearers, which were of oak, the frame consisted of pine timbers. The wagon for carrying the boring apparatus away from over the shaft mouth was mounted on four 18-in. wheels, and runs on a pair of rails, bolted on two strong sleepers fixed to the tower framework, at the height of 38 ft. above the ground. The tramway is at right angles to the direction of the boring-beam. The wagon, which has a weight of over 20 tons to carry, is moved backwards and forwards by means of two winches. The trestle supporting the boring lever is 15 ft. in height. The platform on which the workmen stand when engaged in screwing and unscrewing the rods is fixed at a height of 25 ft. in the tower. Over the mouth of the shaft two strong beams are placed at right angles to the direction of the boring lever, and on them rails are fastened, on which two strong trolleys (or scaffolds provided with wheels) can be run, and when moved close together they completely cover the shaft, except in the centre, where they leave a centre opening 7 in. in diameter for the boring-rods. Two spring or snatch hooks hold the two halves together. The top of these scaffolds is on the same level as the floor of the boring tower and the surface of the ground, so that the trolley (which can be run on to a pair of rails on the scaffold, level with a line of rails laid down outside the boring-house), is thus brought beneath the mud sludger when it is withdrawn from the shaft; and on lowering the sludger on to the wagon on the scaffolding, it can immediately be run off on the line of rails laid down outside the boring-house, and there emptied.

The actual boring operation differs in no way from the method of sinking bore-holes with Von Oeynhausen's sliding shears, which we have described, except that in the present case we are dealing with heavier weights and larger masses—so that at least two and sometimes more workmen are necessary at the tiller head to rotate the borer, and some of the other operations likewise may require more workmen. When it is intended to commence boring, the sludge cylinder, to be shortly described, is lowered and left suspended at the mouth of the advanced bore-shaft, and the rods with which it was lowered are raised to the surface and unscrewed. The boring apparatus, which is suspended from the carriage by means of the holder we have just described, is brought vertically over the mouth of the shaft by running the carriage along the tram. When this has been done the first rod is screwed on to the top of the boring apparatus, and the swivel nut (fixed to the end of the winding rope) is screwed on to the top end of the rod. The whole apparatus is then raised an inch or two, so as to allow of the moveable holder being pushed aside till the screw-joint passes; the apparatus, &c., is then lowered 16 ft. (the length of the rod); the moveable holder pushed back into its old position, so as to catch beneath the collar at the upper end of the rod, and the apparatus is again suspended from the carriage until the swivel nut of the winding rope has been unscrewed, and a second rod screwed on, and the swivel of the winding rope attached to the upper end of this second rod, and the whole apparatus again lowered 16 feet. During the raising and lowering of the apparatus the greatest attention is required on the part of the engine-man and bore-master—so that in the case of the apparatus catching anywhere the raising or lowering can be immediately stopped. When the apparatus has reached the bottom of the shaft, the boring lever is pushed forward into position, and attached by means of the lengthening screw to the shaft-rods, and the chain from the piston cross-head of the boring cylinder is attached to the opposite end of the beam. By means of the lengthening screw the apparatus is so arranged that when the piston is at the bottom of the cylinder, and, consequently, the rods suspended at their greatest height during the actual boring, the cutters of the boring tool shall be from 20 in. to 24 in. above the bottom of the shaft. As the stroke of the cylinder is 36 in. this will leave from 12 in. to 16 in., within which space the motion of the shaft-rods must be stopped after the cutters have struck the bottom of the bore-hole. As this is effected principally by means of the spring arrangement we have described, this space will be found quite ample.

The raising and falling of the boring tool is continued until it is perceived that the amount of debris is so great as to destroy the mechanical effect of the fall of the borer; the apparatus is then raised to the surface, and the boring tool suspended from the carriage, is run to one side clear of the mouth of the shaft. The advance, therefore, in the enlarged shaft, per so-called "heat," or per each separate boring between two sludging operations, would be about 3 in. to 4 in. The boring lever is also moved to one side, and the clearing and raising of the debris commenced.

At Styringen, where a tread-wheel was also used to take the weight of the apparatus momentarily during the screwing and unscrewing of the rods, five workmen were employed by Herr Kind—one bore-master, two labourers, one man at the boring cylinder, and one at the winding engine. With this staff Herr Kind advanced the bore-hole 10 in. to 11 in. in a 12 hours' shift, the enlarged shaft from 25 ft. to 31 ft. per month. The cost per yard of boring through variegated sandstone is said to have been 12*l.*, or 4*l.* per foot. At St. Vaast the bore-hole was sunk 410 ft. deep, and the shaft bored through 300 ft. within 12½ months; during two months of this time, however, operations were suspended. If we leave out of account 110 ft. of the bore-hole (by which it exceeds the depth of the shaft) we have the bore-hole and shaft bored through 300 ft. in 8½ months, or an advance of 35½ ft. per month. The average daily advance through rocks of ordinary character varies between 2 ft. and 4 ft

The sludging of the bore-hole is effected in a somewhat different manner to that usual in ordinary boring operations. We have already mentioned that during the boring of the enlarged shaft the sludger remains suspended from the top of the advanced bore-hole, in which the debris formed by the boring of the shaft partly collects during the boring operation, the remainder being afterwards brought into the sludger by a special instrument, called the scraper.

The sludger consists of a long (16 ft. to 19 ft.) cylinder of sheet iron, about 2 ft. in diameter, ⅛-in. thick, formed by rivetting several short cylinders together. The diameter of the sludger, however, must be such that it can at all times be readily moved about in the advanced bore-hole. The lower end of the sludger is strengthened by bolting or rivetting a strong iron ring, about 8 in. in height and 1 in. thick, on the inside. In this ring two holes are bored, diametrically opposite each other, which serve as the sockets for a round iron bar or axle. To this axle four hinges are keyed, and to the latter are fixed two doors or shutters, semicircular in shape, so as to close the bottom of the sludger. Both doors are provided with a bolt, which can be pushed forward into a hole in the iron ring, and thus prevent the doors from opening. The doors are arranged to open downwards. In order that the lower end of the sludger may be readily guided into the bore-hole the lower end has two strips or hoops of iron, about 5 in. wide and ⅜ in. thick, bent in a semicircular form beneath the bottom of the cylinder; the two hoops cross each other at right angles, and are bolted together where they cross. The upper ends of the hoops are bolted or rivetted to the lower end of the sludger. To the upper end of the sludger four vertical flat bars are rivetted, which project somewhat above the upper end of the sludger, where they are rounded off and bent outwards. Immediately beneath the bent ends of the flat bars and just above the top edge of the sludger, a strong iron ring about 2½ feet high and 2 in. thick is placed, and attached to the ends of the bars, in order to furnish a better support for the sludger. To this iron ring a short leather sack is attached, which surrounds the upper end of the sludger, and closes the space between the sides of the bore-hole and the outside of the sludger. The cutters on the large boring apparatus are, of course, so arranged that they clear the upper edge of the sludger; they cut the rock, however, so close to the latter that that portion of the ground on which the sludger rests is so shattered and broken as to fall to pieces and give way of itself, either falling into the bore-hole, or is pushed aside by the weight of the sludger, which is facilitated by the fact that the debris, &c., is under water. The sludger thus sinks as the level of the bottom of the shaft is lowered, although the upper edge of the sludger always projects somewhat above the upper end of the bore-hole.

* Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath Dr. VON GRODDECK, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

† See No. XXII., *Mining Journal*, April 28, 1877.

THE BESSEMER PROCESS FOR COPPER PYRITES

The new application of Bessemer's process of rapid oxidation to the Treatment of Pyrites, by which the sulphides are utilised for fuel, formed the subject of a highly interesting paper by Mr. JOHN HOLLWAY, read before the Society of Arts on Wednesday evening, and as the object in view is to treat a mineral which is very abundant, but rather difficult of successful treatment, too much attention cannot be given to the subject. The paper was illustrated by a valuable and instructive collection, lent by Prof. Tennant, of the oxides and sulphides with which the miner and metallurgist has usually to deal. Mr. Hollway pointed out that when metals are extracted from their ores by fusion the necessary heat is always obtained by the burning of coal, coke, or other form of carbon, and that sulphides can be made to burn in air and are thus combustible substances, while the oxides are bodies that have been already burnt. The metallic sulphides, consequently, are natural combustible minerals, and it was Mr. Hollway's object to prove that they can be utilised as sources of heat in certain metallurgical operations. The most important of the mineral sulphides is pyrites, both on account of the frequency of its occurrence and the extent of its deposits. The predominating constituent of this mineral species is bisulphide of iron, with which are frequently associated sulphides of copper and arsenic; silver and gold are usually present in larger or smaller quantities. When iron pyrites is roasted in the open air, an increase of temperature takes place in its mass, so that the oxidation continues without the application of external heat. This operation is carried on in Spain and other countries where vast quantities of cupreous pyrites are exposed in heaps for several months to a slow process of combustion, which gradually resolves the sulphide of iron into ferric oxide. A similar combustion is effected in the pyrites burners of the sulphuric acid manufacturers, the solid product of the operation being the so-called burnt ore, an impure peroxide of iron. The other principal sulphides are those of lead, zinc, and antimony. Sulphuretted ores of copper, lead, and zinc are usually roasted to render them reducible in the furnaces, and to make their non-valuable constituents capable of combining with the fluxes used, the requisite heat being always obtained by the combustion of coal or similar material of organic origin. This process of roasting extends over a considerable space of time, and the heat evolved by the oxidation of the sulphides is never very manifest at any period of the operation. The sulphur and metals frequently burn to waste, because the utilisation of the heat resulting from the burning of such fuel has not hitherto been considered a subject of much importance. If, however, a rapid current of air is forced through molten sulphides, the maximum temperature of the combustion is attained, because all the oxygen of the air driven in is then utilised for oxidation, and the operation is concentrated into the space of a few minutes instead of occupying many weeks, or in the case of cupreous pyrites many months.

At the result of a careful investigation as to the comparative temperatures produced by the oxidation of the principal sulphides, Mr. Hollway was led to the conclusion that the oxidation of sulphides would produce sufficient heat to render their smelting a self-supporting operation, and in consequence several experiments were made by forcing a current of hydrogen from a gas cylinder into molten sulphide of iron contained in a fire-clay crucible. The tuyeres used were porcelain tubes and the stems of common clay pipes. When the current of gas was directed upon the surface of the mass an intense incandescence with a violet light was observable, showing the high temperature resulting from the oxidation. Upon dipping the tuyere into the sulphide the temperature visibly increased, and the oxide of iron formed acted energetically upon the silica of the fireclay; but the contents of the crucible soon became viscous in consequence of the absence of sufficient silica to form a fusible slag. On April 22, 1878, the experiments were continued, and larger crucibles used; the sulphide of iron was acted upon by a current of air, sand being added during the oxidation. A regulus and slag were obtained. The sulphide of iron was made by fusing cupreous iron pyrites in a steel melting furnace, the fire of which was allowed to burn down as soon as the oxidation commenced. When the blast of air was turned on the tuyere was dipped into the contents of the crucible, and the blowing was continued for over 30 minutes, but the oxidation was not sufficiently rapid to give the desired result.

Yet the promise of ultimate success was sufficiently encouraging to induce Mr. Hollway to persevere, and at last the rationale of the process could be accurately interpreted, and Mr. Hollway has come to the conclusion that the substances volatilised will, probably, consist of varying mixtures of arsenious sulphide, lead sulphide, and oxide of zinc; also, possibly, sulphide of the latter metal. There may be also small quantities of sulphide of thallium and oxide of iron, which may for practical purposes be neglected. Sulphur and sulphide of arsenic are readily vaporised in a current of non-oxidising gases at a low red heat (500° C), while sulphide of lead, as also oxide and sulphide of zinc, distil very slowly under similar circumstances; the greater part of the zinc and lead should, therefore, be found in the first sublimate chambers, while the sulphur and arsenious sulphide would deposit further on. Moreover, 300,000 tons of pyrites would produce—in addition to about 72,000 tons of crude sulphur—about 120,000 tons of sulphurous acid. The cost of collecting and liquefying the sulphurous acid would be less than 15*s.* per ton, after setting aside 15 per cent. to cover interest and depreciation of plant, and making a liberal allowance for repairs, the requisite fuel being calculated on the basis of 23*s.* per ton. The profit would be upon treating 300,000 tons of pyrites containing only 1½ per cent. of copper not less than 11*s.* per ton, or 165,000*l.* in all.

These figures will suffice to show the vast importance of the subject to all connected with the development of mines producing pyrites, and Mr. Hollway claims to have proved by experimental data or to have logically demonstrated a number of important facts which may be thus briefly enunciated. The whole of the oxygen of the air driven into a thin stratum of protosulphide of iron, Fe S, is utilised for oxidation. By the heat evolved in the rapid oxidation of sulphides and without the use of extraneous fuel other than that employed in producing the blast, about one-half of the sulphur contained in iron pyrites, Fe S_2, is he finds expelled in the free state. The remainder of the sulphur, excepting that left with the regulus, is principally evolved as sulphurous acid. Although only about 20 per cent. of sulphur is oxidised, the proportion of sulphurous acid to nitrogen by the new process is 14·9 per cent., which is a larger proportion of sulphurous acid than is obtained by copper smelters who manufacture sulphuric acid. In the ordinary method of burning pyrites, where 45 per cent. of sulphur is oxidised, the ratio of sulphurous acid to nitrogen is only 16 per cent. The volatile metallic sulphides, such as arsenic sulphide and lead sulphide, are distilled off with the sulphur. Iron being more oxidisable than copper, silver, gold, nickel, and certain other metals, these latter will be all concentrated in the regulus, provided an excess of sulphide of iron is always present. The protoxide of iron thus formed is converted into slag by the addition of the silica introduced with the pyrites. The more perfect fusion of the slag thus obtained prevents loss of copper by entanglement with imperfectly fused material. About 16 cwts. to 20 cwts. of incombustible material, having a specific heat of ·15 to ·25, can be added per ton of pyrites when a cold-blast is employed, assuming that 1000° C is the temperature necessary for the operation. The quantity of similar incombustible material can be increased to from 30 to 34 cwts. to each ton of pyrites operated on, when a hot-blast of 500° C. is employed, assuming that 1000° C. is the temperature necessary for the operation. Such incombustible material may contain larger or smaller quantities of valuable metals as oxides which will pass into the regulus or be volatilised as sulphides, after double decomposition with protosulphide of iron present in the molten bath. Thus silicates of nickel or copper would be converted into sulphide of nickel or copper, and be concentrated in the regulus.

Amongst other important facts, Mr. Hollway has likewise ascertained that when employing a silicious lining for the furnace the corrosive action of the protoxide of iron formed is greatly mitigated, if not practically avoided, by the addition of sufficient silica with the charge of pyrites to produce a slag containing more silica than is required by the formula 2 (MO) Si O_2 (M representing an atom of divalent metal). That the quantity of coal necessary to produce the blast, calculated on the oxygen requisite for the oxidation which takes place, is 1¼ cwt. per ton of pyrites. That to heat the blast to 500° C. an additional amount of less than 1 cwt, of coal per ton of pyrites is sufficient. That the new process would materially avoid the destruction of vegetation now so bitterly complained of in Spain, and at the same time would greatly increase the profits of the pyrites companies who now employ the cementation process. That the new process could be advantageously employed by the copper smelters for treating rich copper ores on account of the great economy there would be in labour and fuel. That the cost of plant is small, compared not only with the quantity of material it would treat, but also on account of the additional profits derivable from the new process.

In the course of the discussion upon the paper the Chairman (Prof. H. E. ROSCOE, F.R.S.) suggested that the words "Bessemer process" should be omitted from the process, as it was not intended to employ the Bessemer plant when working on a practical scale. He understood that only half of the experiments with regard to this process had yet been tried; only the possibility of carrying on the rapid oxidation of sulphides had been at present tried in the Bessemer converter, but it was not the intention to employ that converter hereafter, because in the plant it was impossible to condense the sulphur which in the process ought to be saved. This could only be done by the use of a cupola, or blast furnace, into which a limited quantity of air would be blown, thus bringing about the necessary oxidation and volatilisation of the sulphur, which would be collected in the free state. If all the sulphur were to be lost the great value of the process would be gone. Mr. Arnold explained how the samples for analysis of the gases coming from the mouth of the converter were taken. Mr. Stead mentioned the powerful action of a cold blast of air on a mass of fluid protosulphide of iron, and thought that air passing through a small column of protosulphide of iron would have every trace of its oxygen removed.

Turning his attention to what appeared to him to be the practical difficulties of the operation, Mr. Riley said that theoretically there was no question that, by passing oxygen through molten sulphide of iron, we did get protoxide of iron and sulphurous acid. As to whether the whole of the air from the blast forced into molten sulphide of iron was deoxidised, it seemed to him a very simple matter, depending on the regulation of the blast; you might blow too much, and not get the whole blast oxidised, but if you regulated it properly there seemed to him no difficulty in carrying it out practically. It seemed to him that experiments should be made on some plant more adapted to the purpose than the Bessemer plant, which was very expensive, and, in his opinion, not well adapted to the purpose. Mr. Lomas asked if actual condensation of one atom of the sulphur (pyrites is bisulphide) took place?—Mr. Hollway said that it did not; it was allowed to pass off into the air—there was no arrangement for condensing the sulphur.—Mr. J. H. Allen, of Sheffield, was certainly astonished to find that the temperature could be as perfectly kept up as it had been with no other fuel than pyrites and sandstone; but he pointed out that they burned iron, which gave greater heat as well as sulphur, and remarked that it was highly probable if you went on you would end by burning out the whole of the iron and too much sulphur, and you would obtained, as was actually obtained, metallic copper; and in such cases you might expect that a certain amount of copper would pass into the silicate. In practice, all you could do was to obtain a comparatively rich material with perhaps 25 to 30 per cent. of copper. According to the most reliable calculation, it seemed that all but about 8 per cent. of the copper was accounted for by what passed into the silicate and regulus, and what was left in the cupola. Some of what disappeared was, no doubt, lost in the splashing over, in what got tipped into the bottom, and unavoidable loss by an apparatus used on a large scale for what it was never intended for. Mr. Arnold stated that the converter was fed with proto-sulphide, one atom of the sulphur being first removed by treatment in the converter.

Several of the succeeding claims of Mr. Hollway were passed over almost without discussion, as containing only facts which were already known. Mr. Allen (of St. Helens) said they all knew, as a question of theory, and indeed of practice, that were these precious metals, as well as the baser metals, existed in copper ores they found their way into the regulus, and not into the slag, except so far as the slag took up regulus in the way of shots. Mr. J. H. Allen (of Sheffield) thought that the assumption that 1000° centigrade was the temperature necessary for the operation was not justified by experience. He thought a higher temperature was required, and, therefore, they could not use so large a proportion of incombustible material as 16 to 20 cwts. On the other hand, there was such a wide margin between the proportion calculated and the proportion required in practice, that there was plenty of room for keeping up the temperature, and at the same time adding plenty of siliceous material to get a slag of sufficiently low specific gravity. As a matter of fact, they calculated it took about 4 cwts. per ton to produce the slag of a theoretical composition of 28 per cent. of silica. Therefore, between 4 cwts. and 16 cwts. there was a sufficient margin. Mr. Hollway evaded the Chairman's question as to what was exactly the amount of silica which would give a normal sl g

Mr. Blanchard suggested that if the pyrites and silica were more carefully mixed before introducing them into the converter better results might be obtained,

Mr. J. H. Allen suggested that it might possibly be found practicable to use instead of sand the siliceous nickel ores, silicate of nickel and magnesium, which were now found so largely in New Caledonia, and many hundred tons of which were now lying idle in England for want of a process to work them. All the alloys containing nickel also contained copper, so that the presence of copper would be no objection. There was the great advantage that in this process you drove off the whole of the arsenic which was so troublesome to get rid of in the case of nickel: whether it would persist in staying if you had nickel there he would not undertake to say. There were other nickelliferous pyrites which it would be possible to smelt with pyrites as a flux. He would also point out that the amount of material which could be added to flux the oxide of iron produced would be greatly increased when it was heated in a blast of hot sulphur, whereas practically they had been throwing it in cold. That was really where the difference between the calculated and observed results arose.

As to the prospects of ultimate success of the Hollway process, Mr. Blair was quite certain that those who had worked out the application of the Bessemer process would agree with him that at the beginning it had not nearly so bright a prospect before it as this of Mr. Hollway. Mr. Howson explained what plant it was proposed to adopt with a view to obtain a rich regulus and to collect the sublimates. Mr. J. H. Allen would hardly think the process was adapted for ordinary copper smelters, because they dealt with such a variety of ores, in many cases containing very little sulphur; instead of being sulphurets they were silicates, carbonates, and oxides, and for all that large class of ores which were imported the process had no applicability whatever. He had no doubt that Mr. Vivian in his remarks had in his mind the variety of ores which the English copper smelter had to deal with, but, on the other hand, there were ores very rich in copper, containing 30 per cent. or more, found in large quantities in districts where fuel was scarce, and where it might be advisable to bring them into a richer state than they were. Still, that was not where this process would be chiefly applicable; it was rather adapted for ores poor in copper and rich in sulphur, and found in districts where fuel was scarce. There he thought Mr. Hollway's process promised to be a very great success.

Professor Graham would not speak of the process, as brought forward that evening, for he had not had the pleasure of seeing the experiments. They had been already described, and he could not but say that there were several conditions which required consideration. There seemed a necessity for intermittent action, and it would require him to consider in what way he should make the process continuous. Then there was another point on which he was afraid he could not help him at the present time, the right and economical way of utilising the sulphur. He understood that he proposed to carry out this process in Spain, and not to bring the ore to England, consequently he would have to purify the sulphur from volatilised sulphide of arsenic, and so on, and would thus have a large quantity of sulphurous acid to deal with.

These were, in Prof. Graham's opinion, practical points, which would no doubt give him some trouble, but as regards the main principle, that he would be able to do without coal, excepting in so far as he required it to obtain the hot blast and to overcome the 10 lbs. pressure, he had distinctly proved his point. As to the question of the balance-sheet, he did not think the experiments with the Bessemer plant would enable anyone to form an accurate idea. Prof. Abel, C.B., F.R.S., thought the chemical principles enunciated were sound. The advantage of the process was not based simply on the production of a regulus, but on the utilisation of by-products and the collection of the sulphur and sulphurous acid evolved during the calcination of the pyrites. There appeared very great promise in the experiments already carried out, and he thought the inventor might entertain a sanguine expectation of constructing such an apparatus as would give the results he desired.

SURFACE CONDENSERS.

At the Cornwall Mining Institute meeting, held at Camborne, a paper on "Surface Condensers," by M. Schonheyder, was read by Dr. Le Neve Foster, Capt. Teague (President) occupying the chair. There were present Capts. T. Teague, jun., Rich, Bennetts, Messrs. W. Rich, Preston, Daniell, Holman, Millyard, and others.

The writer said—The various and numerous improvements, or proposed improvements, since the time of James Watt in the many details which, taken together, comprise the steam engine and boiler of the present day, have had for their object—first, to attain greater economy in the working of this invaluable motor; and, secondly, to prolong as much as possible the life of the different parts of the engine and boiler. For attaining the first, higher pressures and greater degrees of expansion have been adopted; greater care has been bestowed on the design of the engine, so as to avoid as much as possible waste in the steam passages, &c.; the steam jacket has been generally adopted; better working has been put in the working parts; and, finally, more economical modes have been adopted of raising steam by constructing the boilers of larger dimensions for the work they have to do and by other improvements. To secure the second, better material has been used, larger wearing surfaces and better proportions of the working parts; and regarding the boilers their life has been prolonged by superior workmanship, by the use of better iron, by improved fittings, and those means which have been adopted to prevent or diminish the deposit of lime, &c., on the plates. This corrosion of lime, &c., has been endeavoured to be removed in many ways, but with very limited success. The writer then called the attention of the meeting to the surface condenser, which effectually prevents this hurtful action on the boiler, which, except at sea, has not been universally adopted. A detailed description of the apparatus followed, which showed it to consist of a tight vessel traversed by a series of tubes. Into the interior of this vessel and outside the tubes the exhaust steam from the engine passes by a suitable opening, and through the tubes a current of cold water is constantly flowing. By contact with the exterior cold surface of the tubes the steam is condensed and is then pumped back again to the boiler, or, in the case of condensing engines, an air-pump is attached and a vacuum produced frequently superior to that obtained with injection condensers.

Its advantages were summarised as follows:—

1.—Nearly total absence of incrustation, &c., even with the worst feed-waters.

2.—Exclusion of all corrosive substances, which may be mixed with the feed-water.

3.—Prolongation of the life of the boiler.

4.—Increased steaming power.

5.—Saving the first cost of spare boilers and the continually recurring expenses of cleaning and re-lighting.

6.—Saving the cost of frequent repairs.

7.—Enormously increased safety to life and property.

8.—By in some cases not having to pump condensing water.

The author concluded his excellent paper with a hope that the surface condenser would be generally adopted where necessary.

Mr. M. Loam remarked that there was no greater source of explosions than corrosion. He would have liked to have known the actual expense of a surface condenser and also the size of the air-pump required. It has been found that water contains a certain quantity of air held in suspension, and when heated to 112° it becomes deprived of that air, ebullition takes place, and it becomes explosive. How is this air to be supplied to the condenser to keep it from exploding and free from danger? He then spoke at some length about the dangers of distilled water being directly supplied to boilers, and regretted the dirty and consequently dangerous nature of the water of the generality of their mines.

Dr. Foster regretted that the author of the paper was not present to answer any question. He should be the last to advocate surface condensers if it was proved they were dangerous, yet they are largely used in the navy and in large sea going steamers, and we do not hear of any explosions. He thought they were proved by the best authorities of the country to be safe. He simply knew the fact that they were largely used, and if there even was any way of adding air, he was not at all convinced about the utility of doing so.

A long discussion took place.

Capt. Rich wished to know if by the surface condensers they could obtain a better vacuum; and he also thought when the tubes got choked up by use, the condensing would become rather deficient. Certainly the other suggests using mineral oils instead of the tallow we use at present.

Dr. Foster called the attention of the meeting to a specimen tube on the table, sent by the Broughton Copper Company, which was examined.

The Chairman wished to know the result of the application of soda to the boilers, and Capt. Rich stated that it did not make old boilers new, but it certainly made them better, and they did not wear away very much.

The Chairman said the paper they had heard was a move in the right direction, and one which the Institute required. (Hear, hear.) But when Mr. Loam's paper came before them at Redruth, on Feb. 25, they would be in a better position for discussion, as justice had not been done him by the short discussion that evening.

After some more remarks by other gentlemen, Dr. Foster considered that where the feed water was very good there, of course, would be no need of adopting the surface condenser; but where they were expending a lot of money on repairs, then, he thought, it would be worth while to give the subject some consideration.

Mr. Loam considered if they would be at a little expense, and keep their boilers in pure water, they would save themselves a great deal of unnecessary expense and annoyance.

A lengthened discussion then took place in regard to a scheme put forward by Capt. Teague, jun., that it would be possible to get a good supply of clean water at very little expense from the hills in the neighbourhood, and it had been suggested that windmills might be useful in pumping water into a sort of reservoir for after use. As the chairman had said, they did not find so much difficulty with the foul water as with clear water which had become acidulated. There was a great difference between clear and pure water.

Mr. Loam stated that the rainfall of the district was 4 ft. in the year, and he also thought this might be utilised; and Mr. Millyard considered that it could be done if some prominent members of the Institute would take the matter up, and it certainly would be a very great advantage to them.

Mr. Daniell thought that the water could be stored very cheaply.

Mr. Loam proposed and Capt. Rich seconded a vote of thanks to the author for his excellent paper, which was unanimously carried.

Dr. Foster was certain M. Schonbeyder would be very happy to answer any questions submitted to him. He proposed a vote of thanks to their president, Capt. Teague for presiding.

Capt. Josiah Thomas seconded it, and, it being carried Capt. Teague returned thanks, and the proceedings terminated.

Meetings of Public Companies.

PARYS MOUNTAIN MINING COMPANY.

The thirteenth ordinary general meeting of shareholders was held at the offices of the company, on Friday,

Mr. J. Y. Watson, F.G.S., in the chair.

The report of the directors, the agent's report, and statement of account, which were given in the Journal last week, having been taken as read,

The Chairman stated that the directors had two reasons for recommending the reconstruction of the company—first, they had determined neither to borrow money nor to get into debt; and secondly, a very important amalgamation had been proposed to them—one that had been recommended to them for years, but which they had not been before in a position even to entertain, and if nothing should come of the amalgamation its proposal has been already of great importance to the company, for Capt. Mitchell has been allowed to go underground in the Mona, and from what he states there is scarcely any speculation at all in the 90 cross-cut south, but means must be had to carry it on to the end. The Mona Company have one end of the great open-cast of about 100 fms.; here they put out a cross-cut at the 55, and were three years driving it before they got into the ore about twelve months ago, since which time they have sold some thousands of tons of ore, and are raising 150 to 200 tons a month, some of their stopes being 30 ft. wide. The cross-cut at the 90 at Parys is within 15 fms. of this ore, and in ground precisely similar to what was met in the Mona cross-cut before they got into the ore. In reference to the accounts, the precipitate and ochre pits, he said, brought in 2000*l.* to 3000*l.* a year, but the chief part of this was only received once a year, whereas 300*l.* per month had to be provided in cash to pay the expenses, chiefly incurred in driving the 90 cross cut south, and which had still to be driven 15 fms., and requiring 1800*l.* to 2000*l.* to accomplish. Since the plan of the directors had been published the shares of the company had risen cent. per cent, and many hundreds of shares had been purchased with a view to join the new company. There would be no difficulty in its reconstruction, and in finding all the capital required, which in reality only amounted to 3000*l.* or 4000*l.*, or even less, to begin with, and all that was necessary to be done at this meeting was to adopt the directors' report, and it would then be for them to call a special general meeting to carry out their plan, by which many shareholders would at once receive a fully paid-up share *pro rata*, for each of those now held, and have the option of subscribing for part of the 7500 at 1*l.* per share each, again receiving also a bonus share of 1*l.* paid. There are about 400 shareholders in the mine, and an average of 10 shares each would provide all the capital required; but among the many letters of approval of this plan received by the directors some have offered to take 50 or even 100 of the paying shares in addition to what they would receive as vendors. The directors, who are the largest shareholders, would also subscribe for about 1000 of them. In reference to the proposed amalgamation with the Mona, and in anticipation of which they had proposed the 50,000 shares, a large shareholder in that mine would be in town next week to meet the directors on the subject, so that the matter had better be left to the directors. He would only and that it is the opinion of the agent that an amalgamation such as proposed would, if carried out, make one of the best mining properties in the kingdom. At Parys Mountain there are enormous quantities of poor copper ores that do not pay to sell at present prices of ore, but might pay to smelt. The Mona have smelting works for the purpose and on the spot. After a short discussion the report and recommendation of the directors, together with the accounts, were unanimously adopted and passed.

A resolution was also passed instructing the directors to take measures at once for carrying out a proposition for the reconstruction of the company.

Mr. Daukes said the visit of Captain Mitchell to the Mona Mine had during the last week thrown more light than we had ever had before in reference to the 90 cross-cut south, which was now simply a means of money to carry it out.

Captain Mitchell, who was present, said the cross-cut which had taken the Mona three years to drive was not so deep as the 90 at Parys, but that company were driving another still deeper. There was in the Parys parallel cross-cut every indication of the like success that the Mona had met with.

The Chairman here explained, showing a sketch of the great opencast, that it was 300 fms. long, on the rich course of ore which had produced 5,000,000*l.* sterling, and of this Parys Mountain had about 200 fms. and the Mona 100; and as he understood from Captain Mitchell the richest deposit was above the Parys cross-cut—which was running parallel with the Mona towards the ore.

Mr. F. Braby, F.G.S, proposed the re-election of Mr. J. Y. Watson, F.G.S, as a director, in very complimentary terms; he said he believed no one knew the mine, with the exception of Capt. Mitchell, better than Mr. Watson did. He had studied it from its commencement, and was resolved, if possible, to bring it to a successful issue. When he (Mr. Braby) first visited the mine, years ago, he was so much struck by its grand character as a speculation that he returned to London and bought 500 shares at 3*l.* 15*s.* per share, and he still held them.

Mr. Diek having been re-elected auditor, and a vote of thanks passed to the Chairman and directors, the meeting separated.

MORFA DU MINING COMPANY.

The second ordinary general meeting of shareholders was held at the offices of the company, on Friday,

Mr. J. Y. Watson, F.G.S., in the chair.

The directors' report, together with the accounts, a summary of which was given in last week's Journal, were taken as read.

The Chairman said that when last in that chair he had expressed the opinion, first, that it would not cost more than 700*l.* to reach the bluestone; and, secondly, that underneath it—at perhaps no great depth—some great deposit of mineral would be met with, and that this would be proved at the same time the company made a good profit from the bluestone. Now, he was happy to say, the bluestone was reached 12 fathoms under the old level for about 800*l.*, and to the end of December the whole outlay on the mine had only been 1252*l.* 6*s.* 2*d.*, against which they sold stone for 500*l.* 10*s.*, and have since delivered 300*l.* worth more. They had also entered into a contract for six months to supply all that could be raised at a remunerative price. Bluestone was a very complex article, requiring a particular kind of treatment, and according to the assay made by Messrs. Claudet is worth more than the company are getting for it. In fact, they had been offered more, on condition that every parcel shipped came up to that particular assay, a condition attended with so much risk that it could not be entertained, and a contract at a lower price was accepted for six months, during which time more would be known of its real value. It would not, the directors thought, be wise or expedient to mention this price; but, he might add, that the company was doing well, and even with the present rate of returns the directors hoped to give a dividend or two during the present year. A profit of 60*l.* per month would pay 10 per cent. on the capital, and they were doing better than that.

The accounts and directors' report were unanimously adopted and passed. Mr. J. Y. Watson, who retired by rotation, was re elected a director, and Mr. Ashmead elected auditor.

THE SOUTH WALES COLLIERY COMPANY.

The ordinary general meeting of shareholders was held at the Cannon-street Hotel, on Wednesday. The report of the directors stated that the amount to the debit of the profit and loss account was increased by the sum of 3000*l.*, arising wholly from the fact that their agents for the sales had been unable to sell the quantity of steam coal which the Cwm Tylery pits were capable of producing, and thus the Rose Heyworth Pit continued idle and unproductive. The quantity of steam coal raised during the half-year was 51,767 tons 7 cwts., averaging 331 tons per day, and the pits were idle for want of orders 37 days. The average cost of the coal raised and put into trucks at the pits was 6*s.* 1·45*d.*, and the average selling price had been 5*s.* 2·66*d.* For the month of December the Cwm Tylery pit and level worked (with the exception of two holidays) with regularity, and the output was thereby so much increased as to reduce the cost for the month to 5*s.* 6·86*d.* The coal raised in the half-year was 67,156 tons, as compared with 75,534 tons in the corresponding half of 1877, the average selling price being 5*s.* 2·56*d.*, as against 5*s.* 9 84*d.* in 1877.

Mr. Howard J. Kennard moved the adoption of the report and accounts. He also regretted very much the loss of 3000*l.* on the half-year's working. More than half of the loss was attributable to the Rose Heyworth Pit, which was not being worked now. Their colliery was laid out for an output of 1500 tons a day, but the demand had been so slack during the past half-year as to be very little over 400 tons per day, whilst the dead charges remained the same, or nearly so, as if the output had been at the larger figure. He believed with improved times this colliery would be one of the best in South Wales.—Mr. J. Firbank seconded the motion.

In the course of a long and animated discussion upon the past and present management of the company, an amendment was moved by Mr. Potter that the report should be received, but not adopted. This was, however, withdrawn, and Mr. Potter said he would test the question of management upon the motion for the re-election of directors.—The report and accounts were then adopted.

Mr. Lawrence's re-election having been proposed by the Chairman, an amendment was moved by Mr. Potter that Col. Heyworth should be elected in his stead. After a protracted discussion the amendment was carried on a show of hands, and a poll was demanded on behalf of Mr. Lawrence. The Chairman stated that the poll would be taken and declared on the 26th inst. at the Cannon-street Hotel. Mr. Firbank, the other retiring director, was unanimously re-elected, as were also the auditors.

It was stated that in the event of the poll being in favour of Col. Heyworth (who, it was remarked, holds nearly as large an interest as the whole of the present directors), he would select a board for the approval of the shareholders.

The English-Australian Gold Mining Company.—A general meeting of shareholders was held at the offices of the company, Austinfriars, on Wednesday (Mr. J. W. Williamson in the chair), when the following resolutions were unanimously confirmed:—

1.—That the directors are hereby authorised to increase the nominal capital of the company, mentioned in clause 5 of the Memorandum of Association, by the sum of 5000*l.*, to be divided into 5000 shares at 1*l.* each, at a premium, or at a discount, or with or without any preference, guarantee, privilege, or advantage, as they may deem advisable.

2.—That the directors of the company for the time being shall have full power and authority from time to time to issue or retain all or any part of the said 5000 shares of such increased capital as they may deem fit.

Lead Era Mining Company.—The first ordinary meeting of shareholders was held at the offices of the company, Finsbury-circus, on Saturday (the Right Hon. Lord Lisle in the chair). The secretary (Mr. Wilson) read the notice convening the meeting and a report from the agent at the mine. The Chairman briefly stated that the meeting was purely formal, having been convened to fulfil the requirements of the Companies Acts, and he invited enquiry by shareholders upon any point on which they required information; an interesting discussion then ensued, and the position and prospects of the company were fully ventilated, which judging from the remarks were considered satisfactory, great confidence in the early success of the undertaking being expressed. The proceedings terminated with the usual complimentary vote to the Chairman,

Thorp's Gawber Hall Collieries (Limited).—The usual half-yearly meeting of shareholders was held at the Guildhall Hotel on Tuesday. Mr. Dibb, of Barnsley, occupied the chair. The accounts, balance-sheet, and report were presented, and afterwards a number of questions were asked, which were satisfactorily answered; and it was resolved to continue working the colliery, and 3200*l.* worth of additional capital was taken up in the room. Thanks were voted to the directors for their services during the past year.

Van Railway.—The report of the directors for the half-year ending Dec. 31, to be submitted to the proprietors at the general meeting on Feb. 27, states that the net earnings for this period have been 300*l.* 0*s.* 11*d.*, which added to the amount brought forward from last half-year makes the undivided profits 777*l.* 3*s.* 5*d.* The directors recommend the declaration of a dividend at the rate of 4 per cent. per annum, free of income tax, and to carry forward the balance, 377*l.* 3*s.* 5*d.* The receipts have been adversely affected by the general depression in commercial affairs. A further portion of the line has been relaid with new sleepers, which will be continued as found necessary, and the amount available for such purposes now stands at 633*l.* 16*s.*

[For remainder of Meetings, see to-day's Supplement.]

DON PEDRO NORTH DEL REY MINING COMPANY.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—I have for several months past read with much interest the reports of Captain Vivian, the manager, as also the remarks from correspondents upon this undoubtedly most valuable gold mine. No practical miner ever doubted that the lode in the jacotinga would not continue productive in depth, and this has been practically demonstrated by the intersection of the vein in the 40 cross-cut of increased size and richness, containing 5 ozs. of gold to the ton of veinstuff; and, as the numerous shoots of gold will unite and form a junction before the 50 or next level is reached, down towards which I understand they are now sinking, there are reasonable grounds for expecting to find a much richer lode as depth is attained.

The great drawback to a resumption of profit and dividends has been the defective state of the flanges of the 60-ft. wheel; but as I understand steps were taken more than two months ago to send out castings to strengthen and repair these defects, let us hope we shall in the future hear less of these breakages, and consequent stoppages of the underground operation by the accumulation of water in the working levels and stopes, and instead have regular monthly profitable sales of gold returned, of which I feel persuaded that the late great improvement in the mine is capable of doing under wise and judicious administration. Peter Goiffon.

London, Feb. 14. (Shareholder.)

MARKET ECHOES, AND MINING MATTERS.

The Glyn and Van Consols amalgamation appears now to be an accomplished fact. The "United Van Consols and Glyn Lead and Barytes Mining Company (Limited)" has been duly registered, and the directors of this new undertaking are inviting applications for the remainder of the 17,500 10 per cent. preference shares. The new company is in 52,000 shares of 1*l.* each, of which some 35,000 are absorbed by allotment as purchase money to the shareholders in the late Glyn and Van Consols Companies. The remainder are the preference already referred to. The rights of the holders of shares manufactured by the former secretary are fully recognised, and are to be satisfied by an allotment share for share out of the purchase shares. A satisfactory settlement is thus made of a very disagreeable matter, the new company bearing the entire loss arising from the false shares by adding the amount to the new capital. The contract necessary to carry out this arrangement has been made between one of the directors on behalf of the company, and another director as trustee for the shareholders, and, of course, has been, or will be, duly completed before the allotment takes place. A special report by Capt. Roach upon both mines has been issued, and in it the manager strikes the keynote of the new company's policy—deeper mining.

It has appeared strange to some why the direction of the Parys Mountain Company, with a balance of assets over liabilities amounting to 2059*l.*, should recommend reconstruction. Although we can scarcely go so far as to say that reconstruction is absolutely necessary, we can understand the reasons which have induced the directors to recommend it to the shareholders. The credit balance is not at present available, and the receipt of the general revenue is more or less dependent upon circumstances. On the other hand, costs of about 300*l.* have to be met monthly. The company owes 983*l.*, and is stated to be possessed of assets amounting to 3045*l.* But of this latter sum 1000*l.* consists of a debt not yet due, and 207*l.* "subsist." The remainder is nearly accounted for by estimated values of ores and other produce "on hand," that is to say, produce which, owing to the depressed state of trade, has no certain sale. The works are said to be in the company from 2000*l.* to 3000*l.* a-year (the balance-sheet just issued shows receipts from all sources amounting to the sum of 1607*l.*, but the difference is, doubtless, to be accounted for by produce on hand), and there is still 2000*l.* to the good; but, as we have seen, the greater part of this revenue is uncertain in its receipt, and the assets cannot immediately be realised. Hence the scheme to reconstruct. We have heard some shareholders ask why an advance could not be obtained on assets which appear perfectly "good," and we expect some such question will be asked at the meeting, for after all with such assets it is more or less a question of financing. If the recommendations of the directors are carried out, and we have little doubt that if the resolutions are duly passed and confirmed the new capital will be forthcoming, the new company would possess a cash capital of 7500*l.*, in addition to the existing assets, whilst only about 15 fathoms more remain to be driven to get under the great open cast of the old mines. In the Mona Mine a similar cross-cut to that being driven at Parys Mountain is now, after taking some years to drive, under the open cast, and in a very productive lode, 30 ft. wide. In the Parys cross-cut Capt. Mitchell states that the ground has lately altered in colour; it is darker, and presents a similarity to the ground which overlaps the open cast great lode, consisting of chert, intermixed with copper ore strings and sulphur. Now, as Capt. Mitchell states, the richest deposits of ore in this great lode were generally found between the chert and clay slate formation, lying near the heading or south side of the great open cast. Therefore the agent is expecting to come upon the hard bar of chert rock, and beyond that to strike the great lode. And Capt. Mitchell adds, "The main chances are yet before us." This is an undoubted fact. To return to the reconstruction scheme for a moment, we may say that the new shares would cost existing holders 10*s.* each, as for each 1*l.* share taken they would be entitled to one bonus share in addition to their present holding, which would be represented by 1*l.* fully paid instead of 3*l.* fully paid shares. There is one point which is not very clear in the directors' report. They state anent new shares in the proposed company that "The balance of 7500 will be given to those of the present holders who first apply for them on condition," &c. We presume this means a *pro rata* distribution within a certain time, otherwise an early ap-

plicant might receive an undue proportion of the new capital. We are, of course, writing before the result of the meeting is known.

The creditors of Messrs. Tweedy have not been induced by Mr. Bain's proposal to give 18s. in *l.* to reconsider their acceptance of Messrs. Tweedy's offer of 16s. in *l.*, and during the week the acceptance of the latter composition has been duly confirmed, Messrs. Tweedy promising to give the creditors the full benefit of any surplus in the realisation of the estate. Although various criticisms have been passed upon Mr. Bain's proposals and action, there can be no doubt that the creditors' interests have in no way suffered by what has been done.

THE MINING MARKET.—A fair amount of business has been transacted this week. There has been a strong demand for Parys Mountain, which have advanced to 8s., 10s. The rise which commenced before the issue of the directors' report, referred to above, has, therefore, continued unchecked. There has been some enquiry for Herodsfoot, which are now quoted 3½ to 4. Roman Gravels are about 6½, buyers, and West Chiverton (call paid) 1¾ to 2¼. In foreign shares Richmond have recovered to 9½, 10. Don Pedro, on adverse intelligence, receded to 18s., but have since advanced to 20s., 22s. Port Phillip are 9s. to 11s., ex div. Javali have been sold as low as 3s. Cape Copper are weaker at 28 to 29. Rossa Grande have changed hands at a few pence per share. Amongst tin shares Peevors have been remarkably firm, and in strong demand. A fine discovery has been made at South Wheal Frances, where there is a course of ore nearly 6 ft. wide, one third of which is tin. This must be the richest lode at present known in Cornwall. For the first time for many years no dividend has been given by Dolcoath. This is a wise policy, but it ought to have been adopted long since. No cost-book mine should be heavily in debt to its bankers. The old mine is richer than ever in the bottom levels, and as it is the deepest in the county it speaks well for the tin-producing powers of Cornwall. Cornishmen after all do *not* mean to be beaten by "Young Australia."

JAMES H. CROFTS.

FOREIGN MINES.

ST. JOHN DEL REY.—Telegram from Morro Velho, dated Rio de Janeiro, Feb. 11: Produce for the month of January, 32,500 oits.=12,593*l.*; yield, 5·7 oits. per ton. Produce small; much quartz and kilias quarried this month.

RICHMOND CONSOLIDATED.—Telegram from the mine at Eureka, Nevada: Week's run, $55,000, from 1079 tons of ore. Week's produce of refinery, $40,000.

— R. Rickard, Jan. 22: Since my last exploration work has been carried on with usual regularity. The 400 cross-cut has been drifted 24 ft.; the present end is in broken ground with ledge matter, and is looking very favourable; this drift will be extended far enough by next week to connect with the rise in back of the 500 level. The 400, on quartzite, has been drifted 4 ft.; we have been obliged to suspend the drifting on account of foul air, which will be resumed as soon as the cross-cut is connected with the rise for ventilation. The 600 north cross-cut has been drifted 15 ft., making a total of 98 ft.; the end is still in hard limestone. The 600 west drift has been extended 32 ft.; we have struck the fissure, which is very regular, and shows good indications for ore. After drifting 10° or 15° west of the fissure to make room for a turntable, shall start to drift south on the fissure. The 800 winze has been sunk 16 ft., and is now down 48 ft.; the present bottom of the winze is in limestone. The 900 west has been drifted 37 ft. in limestone; this drift is on the south side of the quartzite, which at this point is very narrow. The 1000 ft. level has been extended 19 ft. without any material change in the appearance of the ground. The furnaces are all in good working order, and are doing good average work.

ALMADA AND TIRITO CONSOLIDATED.—Telegram from Mr. Clemes, dated Jan. 23: Profit for December, $1400.

ISABELLE (Gold and Silver).—The manager writes, Jan. 20 The opencut was advanced 18 ft. last week; width at top 27 ft., at bottom 11 ft. 6 in.; depth of face 13 ft., of which 6 ft. is now rock, tapering to 3 ft. on the south side. By next Saturday I hope to have the rock all over the face, when I should be ready for the machinery. The building for the compressors, &c., is well on to completion externally.

GOLD RUN.—J. A. Stone, Jan. 25: We have had 48 hours of warm rain, which has started water in the lower ditches, and I trust there will be plenty until the end of the season. A snow storm is now prevailing, and the present outlook is as favourable for as good, or even better, water season than the last. I turned on water yesterday to open the incline, which filled from the last blast; am making good progress, and expect to have all clear and be washing steadily in five or six days. If the season proves a good one I expect to make a good showing at the end.

DON PEDRO.—Telegram from Rio dated Feb. 10, received Feb. 11: Produce for the month (January) 2600 oits. Stoping impeded by water.

— Capt. Vivian, Jan. 10: By the latter you will see that the mineral, which has chiefly been taken from the stopes in the No. 8 old shoot below the 35 fm. level and 40 cross-cut; the same shoot has improved considerably, and I am pleased to be able to state that the points referred to are looking well. The lode in the 40 cross-cut, as far as yet cut into, 2 fms. 3 ft., is looking exceedingly well, and more productive than any part I have as yet seen in this mine; of course it is very encouraging for deep development, and tends to confirm all anticipations; besides it proves that the lode is neither heaved up nor pressed down, as some would have it to be. Although, as I say, rich ore is obtained from the latter point, only a small quantity of it can be had, we not being able to work there always, owing to the water being in so frequently. Again, only a small portion of the lode is laid open, and which is still running comparatively flat, therefore a good extent of stoping ground will be available before the old stopes, now in operation below the 35 reach the bottom of the 40 cross-cut. I think you will agree with me that without doubt Maquiné is a very valuable property, but the great drawback is the defects in the 60-ft. iron-wheel. It is now idle for repairs, and judging from what can be seen will take 10 or 11 hours to get it in working order again, but before then the whole of the rich ore ground will be under water, the loss of time is not, however, the whole drawback. The damage done to soft ground by the water being in is very considerable.

Mine Captain's Letter, dated Jan. 10: General Remarks: The ore has been derived from the bottom of the mine, and being less intermixed with debris it is of much higher class than when last advised, although all the stuff from shaft is now drawn as ore, as it is impossible to separate it from the lodey matter taken from the 40 cross cut; also at the latter point, although the end is in lode for the last 15 ft., yet the lode is not more than 3½ ft. below the back laths of the end, the remainder being country. The ore has materially improved in quality since last advised, and for the last day or so the samples are of the highest standard yet obtained from this point. In the sump-shaft progress is fair and the ground favourable. Good progress has been made in the 40 cross-cut since last advised. Two samples taken from the lowest point of the lode in the cross-cut this morning produced 53 grains, both samples weighing about 13 or 14 lbs., or value about 152 oits. per ton. This is very encouraging, as it to a certain extent proves the lode to be very rich in depth.

In No. 8 old shoot, No. 2 stope east, the progress has been slow, as the ground is soft, wet, and troublesome, as the 40 fm. level cross-cut is not sufficiently advanced to drain the No. 6 lode, which is above this, and consequently retards our progress here; lode large, and of good quality. In No. 3 stope the lode is very large, and of good quality, though somewhat hard for quarrying. In No. 4 stope east a little has been done, so far we have only the top part of the lode, but samples are very favourable. In No. 5 stope the bottom part of the lode is proved to be of far better quality than the top portion of it; taken as a whole, this stope produces fair quality mineral. No. 6 stope, a side stope to cross this and the No. 7 stope, has been commenced, and although only the top branches have been sampled so far the result has been very promising, and will undoubtedly be far more so on reaching the bottom of the lode. In No. 1 stope towards No. 1 vein a fair portion of good quality mineral has been derived from here, prosecuted south to develope the No. 1 vein; the latter has not yet been reached.

The level towards No. 6 shoot continues so far in broken ground and old timber; progress slow. The level towards Canoa advancing fairly.—Prospective and Running Work: No. 1 Incline Shaft: Several repairs made. In No. 2 incline shaft two sets have been renewed, six props put in to assist caps, and other various repairs made.—Stopes: Pillars built and props put in for securing the various stopes open and in operation. Roadways kept in fair order. Several legs changed and laths renewed. But little has been done in No. 5 shoot owing to so many saint days, and consequent smallness of force. The 60-ft. wheel has been idle 13 hours and 20 minutes. The wheel is in a very bad state, and obliged to go under repairs; at 5 A.M. this morning nine bolts broke at the south side, and eleven clips of south side flange joint of axle. This wheel is becoming in such a state that shortly it will be almost impossible to repair it, and the sooner a new wheel is in hand the better for the company, particularly as the bottom of the mine is so auriferous, and general aspects encouraging.

Machinery: Bucket of sinking lift changed, and lift dropped about 6 ft. A new iron rail put under travellers of bob in adit level, linings and rolls changed, and others lined with rope, &c.: plunger pole packed, and many other minor repairs mode too numerous to specify separately. The repeated stoppages of the wheel, we need not repeat, militates greatly against sinking the sump shaft and the 40 cross-cut, although fair progress has been made at both these points. Both shaft and cross-cut would have been much further advanced had we a reliable wheel for drainage.

JAVALI.—Extracts from manager's report, dated Jan. 5: It is with much pleasure that we are able to give you this time a slightly better account of the health, and there seems every hope of the fever entirely disappearing, which being the case we feel thoroughly justified in giving you better hopes for this year. Notwithstanding the smallness of the remittances of the last three months we must call your attention to the fact that the year 1878 has been the best we have ever had, the total quantity of gold being 6533 ozs., whereas the highest year—1876—was only 5681¼ ozs. The following is our report of the working during the past month:—Mine: 48½ varas have been driven in the mine. The balance of stuff crushed was procured from the surface workings and from our stock on hand. The new level to the Conception is progressing rapidly; in the course of this month we expect to come right through. After this the laying of the tramway will not occupy much time, so that in March or April manto will be taken to the mill from this point. At the closing of the year we are happy to tell you that the whole of the workings, timbering, tramways, &c., are in the best possible condition.

Mill and Remittance: At the beginning of the month our hopes were very downcast, as there appeared to be every probability of the dry season already setting in, but fortunately, and just as we were thinking of getting ready the engine, we had some heavy rains, which have continued up to date, and thus enabled us to work with 25 stamps for 20 days, crushing 1600 tons of quartz, which yielded 447¼ ozs. of smelted gold, making an average of 5 dwts. 14 grs. Two days were lost at the commencement of the month, on account of our level wheel breaking a tooth, which necessitated our removing it. For economy's sake we put in its place another one, which had already served some time in former years. This had only been on five days when a crack, which it must have had long ago, but was invisible at the time of putting on, showed itself, and we were again obliged to replace it by another one we had in store, and which since then has worked admirably.—Tailings Mill: 225 tons of tailings were treated, which yielded 30¾ ozs. of gold, making an average of 2 dwts. 17 grs.—Receipts and Expenditure: The three cases of coin were duly received. We have now a very large balance on hand, and as many of our foreigners are anxious to remit money home we think you may safely kept back the remittance of coin for one month—say the April mail—as by the March mail we have promised to receive any savings they may have. The expenditure has been 775*l.* 17s. The remittance is valued at 1200*l.*

CHONTALES.—The directors have advices from their manager (W. White), dated January 5, who reports as follows:—"During the month of December we crushed 1470 tons, which produced 311 ozs. of gold, or an average of 4¼ dwts. per ton. Value of the gold, 540*l.*; total cost for the month, 600*l.*; profit, 240*l.*—San Sebastian: Stoped from No. 1 stopes 200 varas. Stoped from No. 2 stopes 200 varas. Stoped from No. 3 stopes 223 varas. Total quartz raised, 1230 cars, or 1070 tons, worth on an average 4¼ dwts. to the ton; also raised 54 cars of attle. The lode throughout is much the same as last month, but I have every confidence that the quartz here will again come up to the standard of 5 dwts. to the ton.—Estrella: Stoped from back of main level 217 varas. Rose in new rise 2 varas. Total quartz raised 460 cars, or 400 tons, worth on an average 4½ dwts. to the ton. I think to be able in the coming month to open this mine, and carry on operations here on a larger scale of working."

SENTEIN.—The managers (February 8) report that the fine weather which we have had for several weeks has continued, and we have had made great progress in laying out the upper dressing-floors, and in our ontdoor work generally. The masons have completed the crusher-house up to the floor above the main beams, which are placed in position, and the crusher is now fixed with the exception of a few small parts. The walls of the crusher-house will be finished by the end of the coming week. We shall commence the erection of the jigging machinery in a few days, the whole of which has arrived at the Rocard. Our carpenters are at present engaged in erecting a water-wheel to drive the new sawing and drilling machine and turning lathe, which have just arrived. This we expect to have finished in a few days, and it will be the means of saving a great cost in labour, and will greatly dispatch the work. The smith, with a full pare of men, is preparing the ironwork for the big launder, &c., and the cartwrights continue to make good progress. We have now 20 wagons completed.

Although we have splendid weather here we have had several falls of snow at the mine, which has not, however, interfered with the underground workings, and we have been able to keep the men fully supplied with provisions and stores. We have now employed at the mine 44 miners, 2 smiths, 2 strikers, and 12 men tramming, sorting, and placing ores, &c., in all 60 men and boys. We found it necessary to discharge some of our miners at the end of the month of January, as we found that our then staff—about 72 in all—would break more mineral than we could find place to lodge it. We have broken this week a little over 100 tons of the best class ore. We are glad to inform you that we have just cut the footwall of the lode in the lower level. We went to see it yesterday, and found, although it was only a little cut into, some splendid stones of silver-lead ore. We have no idea how wide the lode is, but think it will take at least a fortnight to prove its width. We are highly pleased with what we saw, and fully believe we have here a magnificent run of ore ground, which will yield an immense quantity of rich ore. We will let you know the value of the lode as we pass through it. The stopes and ends throughout the mine continue to yield mineral of the same richness as usual. Total ore raised to 8th inst., 1375 tons.

VIRNEBERG (Copper).—R. K. Roskilley, Feb. 12: Setting Report: Hadley Engine-Shaft: We have commenced to sink the Hadley engine-shaft below the 140 metre level, but the shaftmen having been employed during the week in putting in dividing piece, &c., the progress in sinking has been somewhat interfered with. The 140 metre level to drive north of cross cut, south of Hadley engine-shaft, to six men, at 70 marks per metre; the lode here, which is large, is a little disordered for the present, and is worth only 10*l.* per fathom for copper ore. The 140 metre level to drive south of this cross-cut, to four men, at 50 marks per metre; the lode since we have commenced to open on its course has much improved in appearance and character; it is yielding good dressing work, and promising an improvement. To stope the back of the 140 metre level, south of rise, to six men, at 25 marks per metre; the lode is worth 12*l.* per fathom. To stope the back of ditto, north of the rise, to six men, at 27 marks per metre; the lode is worth 10*l.* per fathom.

The 120 cross-cut to drive east of level, south of shaft, to six men, at 50 marks per metre; we are driving through a good lode of copper ore at this point; and, judging from the general character of the lode so far as cut into, as well as the very congenial ground in which the lode is embedded, we think the main part of the lode to be still standing in this direction. We purpose, therefore, to cut entirely through it before commencing to drive on its course. From the distance which has already been driven we have been able to break a fine pile of copper ore. No. 1 stope, in the back of the 120 metre level, south of the shaft, to six men, at 22 marks per metre; lode improved, and worth 13*l.* per fm. No. 2 stope in back of ditto to eight men, at 35 marks per metre; lode also improved, and worth 20*l.* per fathom. To stope the back of ditto, on footwall lode, to six men, at 30 marks per metre; the lode is worth 8*l.* per fathom. To stope the back of the 120 metre level, north of shaft, to six men, at 22 marks per metre; the lode is worth 15*l.* per fathom. To stope the back of the 80 metre level, south of rise, north of shaft, to six men, at 30 marks per metre; lode worth 10*l.* per fm.

I am much pleased to state that a favourable change has taken place in the weather, of which advantage has been taken, and rapid progress is being made in the building of foundations of boiler and boiler-house. This work will be pushed on with energy in order to get the boiler in the house in as little time as possible. We are also getting on well in the dressing department, and towards another cargo of copper ore excellent progress is being made. Should the present favourable weather continue we shall be ready with a good shipment of ore by the beginning of March.

CAPE COPPER.—OOKIEP: Capt. Lanksbury, Capt. Henwood, Dec. 31: The 92 south east from No. 28 winze has shown a few spots of copper ore during the past month. The other drivings at this depth have not undergone any change to notice. The 80 east from No. 24 winze is producing a little copper ore, but not enough to value, and, judging from the present appearance, the ground is very kindly for a further improvement. The ground in the 80 south-east from No. 19 winze has somewhat improved, and has shown a little copper ore since our last report. The stopes in the 80 are looking pretty well on the whole. The 68 east from under new shaft continues to produce good stuff; the present end is worth fully 2 tons of very rich copper ore per fathom. The ground in the 68 south east from No. 21 winze during one part of the month was worth 6 tons of copper ore per fathom, and the present forebreast is worth 4 tons. The 68 south from No. 21 winze is producing about 2 tons of copper ore per fathom. The stopes in the 68 and upper levels show a little falling off at times, but on the whole they are yielding remarkably well.

SPECTAKEL.—Capt. Henwood, Capt. Lanksbury, Dec. 25: We are pleased to state that the 53 fm. level south has intersected some good copper ore ground, producing about 2½ tons per fathom; this point corresponds with the productive ground in the stope above. The winze sinking below the 46 fm. level, east of the flookan course, is producing some good stones of copper ore, and is laying open the ground for stoping. The stope in the back of the 53 fm. level, east of No. 2 flookan course, is looking well, and the stope in the back of the 46 fm. level, east of flookan course, produces about 3 tons of copper ore per fathom. The 15 south, on No. 1 flookan course, has produced some saving work.

NABABEEP MINE.—Capts. Henwood and Lanksbury, Dec. 15: The 38 fm. level is being urged on rapidly, and a few spots of copper ore have been found. There being a good deal of water issuing from the ground in the winze below the 28 fm. level, and being almost deep enough, we have suspended it until the level below is sufficiently advanced to make communication. During the month a few stones of copper ore have been found in the winze, but nothing of value. We have now put the men to sink another winze on the ore ground passed throug in the north driving of this level. The same level south, on the joint on flookan course, has not produced any copper ore, but the indications are good. The stope in back of the 17 is still producing about 2 tons of copper ore per fathom.

Returns: For December, Ookiep, 975 tons of 30 per cent.; Spectakel, 48 tons of 34 per cent.; and Nababeep, 25 tons of 27 per cent.—Bills of Lading Received: 380 tons per Gleam; 560 tons per Florence; 655 tons per Glanrafon.—Arrivals at Port Nolloth: The Millie Bain and Golconda.—Arrival at Swansea: The Gladstone, Ocean King, and Gleam.—Sales of Ore by Public Tender.—On Jan. 15, 565 tons, at an average of 11s. per unit, realising approximately 10,130*l.* On Jan. 29, 576 tons, at an average of 10s. 10d. per unit, realising approximately 9850*l.*—Put forward for Sale: 535 tons on 12th inst.

PESTARENA UNITED (Gold).—Feb. 7: District Val Toppa: The lode in the end, north of the intermediate level, under zero, is yielding about 5 tons per fm., worth 4 dwts. per ton. The lode in the end south is yielding 6 tons per fathom—low quality stuff.—No. 1 Level: In the end south the lode is yielding 1½ ton of ore per fathom, worth 6 dwts. per ton.—No. 2 Level: The lode in the end south is small, and not to value. The lode in the end south of cross-cut, west of intermediate level, under No. 2 level, is yielding 3 tons per fathom, worth 6 dwts. per ton. We are rising from the end south of winze in a lode yielding 12 tons per fm., worth 7 dwts. per ton.—No. 3 Level: The lode in the end, north of first cross-cut, west, continues to improve, and is now about 1 ft. wide, mostly quartz.—No. 5 Level: The cross-cut westward has to all appearance traversed the whole width of the lodestuff; we have, therefore, suspended cross-cutting, and commenced to drive southward on the most promising part of the lode.—Great Quartz Lode: The driving of the end south of the first cross-cut east, on the line of the great quartz lode has been resumed, and the lode is yielding fairly.—New Flat Lode—No. 2 Level: The flat branches on the side of the level, on the line of the great quartz loda, have failed. The lode in the winze, north of the third cross-cut, is small. There is no change in the fourth cross cut east in No. 3 level. The sixth cross-cut east, in this level, continues to traverse small strings of quartz in the mountain.—District Pestarena: We have commenced a rise from No. 2 lode, in the 33 fm. level, on a lode estimated to give 3½ tons of ore per fathom, worth 15 dwts. per ton. The lode in the drive in the south end of No. 3 stopes is yielding 3½ tons of ore per fathom, worth 1 oz. of gold per ton. No. 2 lode, in the rise over the 33, south of No. 3 stope, is giving 2 tons of ore per fathom, worth 18 dwts. per ton. We hope shortly to communicate this rise to the drive south from No. 3 stope, which will open up the ground for stoping.—No. 5 Lode: In the 33 end north the lode is giving at present 1 ton of ore per fathom, worth 1 oz. 10 dwts. of gold per ton. In the 55, north of new incline, the lode in the end driving north is yielding 2 tons of ore per fathom, worth 8 dwts. of gold per ton.—Acquavite Mine: The lode in the back of the 53 old level, north of shaft, is yielding 3 tons per fathom, worth 12 dwts. per ton. Fair progress is being made in pumping the water, which is now 13 metres under the 55 fm. level.

FORTUNA.—Feb. 5: Canada Incosa: In the 120, west of O'Shea's, the lode is open and easy, and yields good stones of ore, worth ½ ton per fathom. The 50, west of Abercrombie's, has passed through a strong cross course, and is again improving, worth ½ ton per fathom. In the 60, west of Abercrombie's, the lode is small and unproductive. The 50, east of Abercrombie's, has declined in value in the past week, but still worth ¼ ton per fathom. The 70, west of San Pedro's, is also less productive than it was, valued at 1 ton per fathom. In the 80, west of San Pedro's, there is a well defined and very promising lode, yielding ¾ ton per fathom. The 80, east of San Pedro, is improving, worth ¼ ton per fathom, and in the 70 there is a long run of ore ground in advance of it. In the 70, east of San Pedro, a good length of productive lode is being laid open, valued at 1 ton per fathom. The lode in the 120, east of O'Shea's, is large, consisting chiefly of calcareous spar, quartz, and stones of ore, worth ⅛ ton per fathom. In the 100, west of Lownde's, there is no improvement. The lode in the 100, east of Lownde's, has fallen off in value in the past few days. In the 90, east of Caro's, the lode is small, compact, and regular, yielding ½ ton per fathom. In Martinez' winze below the 30 the lode continues regular, and yields good stones of ore, valued at ⅛ ton per fathom. The lode in Pilar's winze below the 60 is a little less productive than it was, worth 1 ton per fathom. In Galo's winze, below the 110, the lode is improving, and has a promising appearance, yielding ⅛ ton per fathom. The lode in Lorne's winze, below the 80, is compact, regular, and productive, valued at 1½ ton per fathom.

Los Salidos: The lode in the 160, west of Taylors's, is promising, productive, and easy for opening up, valued at 1½ ton per fathom. In the 160, east of Taylor's, there is a strong and well defined lode, but not so productive as it was, worth ¾ ton per fathom. The lode in the 145, east of Taylor's, continues very regular, and yields good stones of ore, valued at ½ton per fathom. In the 130, east of Taylor's, the lode is disarranged by a strong cross-course. The 120, east of Cox's, has changed unfavourably during the past week, now yielding 2 tons per fathom. In the 110, east of San Miguel, the lode is further improved, and is opening fine ore ground, worth 2 tons per fathom. The lode in the 80, west of Palgrave's, is compact and and regular, worth 1 ton per fathom. The 80, east of Palgrave's, is improving, and we expect it will now open good ore ground, valued at 1 ton per fathom. In San Pablo's shaft below the 110 the ground is hard, the lode having dipped north beyond the line of shaft. The lode in Linares winze below the 130 is small, and of no value. Bano's winze below the 120 is being sunk at a rapid rate. The usual weekly weighings of ore were kept up very regularly during the past month, during which the stopes did not undergo any change of importance. The ordinary work at surface is going on very steadily, and the machinery is in good condition. We estimate the raisings for February at 300 tons.

LINARES.—Feb. 5: In the 115, east of Warnes, there is no improvement. The lode in the 115, west of Warnes, has changed unfavourably in the past fortnight; worth ½ ton per fathom. In the 120, west of Peill's, a great length of rich lode is being opened, yielding 2 tons per fathom. The 90, west of Peill's, continues very compact and regular; valued at 1 ton per fathom. The 120, east of Peill's, is disarranged by a strong joint, but we expect it will improve again shortly. In the 105, east of San Francisco, the lode is small, compact, and regular, yielding 1 ton per fathom. In the sinking of Peill's engine-shaft, below the 120, the men are getting on right well with this work. No. 227 winze, below the 105, is holed to the 120; lode worth 3 tons per fathom. In No. 229 winze, below the 100, the lode is rather more promising than it was, worth 1 ton per fathom. In No. 230 winze, below the 100, the lode is declining both in size and value, but still worth 2¼ tons per fathom. The usual weekly weighings of ore were kept up very easily in the past month, during which the stopes did not undergo any change worthy of notice. The surface works are going on very regularly, and the machinery is in good working order. We estimate the raisings for February at 200 tons.—Quinientos Mine: The lode in the 100, east of Taylor's, is very regular, and of a moderate size, with stones of ore in the upper part of the end. In the 90, east of Taylor's, the granite is very hard, and the lode small. In the 80, east of San Carlos, there is a regular and well defined lode, with good stones of ore. We estimate the raisings for February at 75 tons.

ALAMILLOS.—Feb. 5: In the 20, west of San Felipe, the lode is improving, worth 1 ton per fathom. In the 100, east of Taylor's, there is a fine open and very easy lode, valued at 1 ton per fathom. The lode in the 100, west of Taylor's, is regular, with good stones of ore. In the 85, west of San Adriano, there is no improvement in this driving. In the 60, east of San Victor, a great length of rich lode is being driven through, producing 3 tons per fathom. The lode in the 70, east of San Victor, is increasing in size, and improving in appearance. The 70, west of San Victor, continues unproductive. In the 30, east of San Victor, the lode shows signs of improvement, now worth ¼ ton per fathom. The lode in the 30, west of San Victor, is very changable, and has again become unproductive. In the 40, south of San Carlos, some branches have been intersected in this long cross-cut, but nothing of value. The lode in the 50, east of Judd's, is improving, and yielding good stones of ore. In the 70, west of Judd's, there is a small vein of ore in the end. At Taylor's engine-shaft, below the 100, the men are getting on very well indeed with this sink. Hidalgo's winze, below the 85, will reach the necessary depth for the 100 in the present month. In Ortez's winze, below the 40, there is a large lode, yielding good lumps of ore. Gregoria's winze, below the 50, has passed through the slide, since when the lode has not been seen. The usual quantity of ore was weighed into the stores during the past mouth, and the stopes are without any change of importance at present. The ordinary surface work is kept on very steadily, and the machinery is in fine condition. We estimate the raisings for February at 175 tons.

AUSTRALIAN MINES.

PORT PHILLIP AND COLONIAL.—Dec. 24: The quantity of quartz crushed on both the company's and tributors' account for the four weeks ending Dec. 4 was 4776 tons; pyrites treated, 30 tons; total gold obtained 1411 ozs. Receipts (including 1835*l.* 19s. 10d. obtained from tributors), 3283*l.* 9s. 9d.; payments (including 260*l.* paid for firewood, &c.), 2048*l.* 10s. 11d; profit, 1237*l.* 18s. 10d.; added to which was previous balance of 1437*l.* 6s. 11d., making an available balance of 2675*l.* 5s. 9d. The amount divided between the two companies was 1200, the Port Phillip Company's proportion of which is 780*l.* The balance carried forward was 1475*l.* 5s. 9d.; remittance, 700*l.*

— Telegram, dated Melbourne, the 7th inst.: "Month ending Jan. 19: Gold obtained from company's quartz, 250 ozs.; gold obtained from tributors' quartz, 1100 ozs.; profit, 1038*l.*; remittance, 600*l.*"

YORKE PENINSULA.—The directors have received advices from the Committee of Inspection at Adelaide, with reports from the Kurilla Mine to Dec. 23. The following are extracts from Capt. Anthony's report:—Kurilla Lode: The 55 is driven 20 fms. east and 4 fms. west. For the first 16 fms. east the lode was large and strong, composed for the most part of quartz. Thence to the end it will yield 2½ tons of 20 per cent. ore per fathom, with promise of continuance. . . . The winze going down from the 45 to the 55, at 17 fms. east of the shaft, is about 6 fms. deep. There is a capital stone of ore in the winze. . . . The stope in the 45, east of the hauling shaft, continues to yield from 4 to 5 tons of 20 per cent. ore per fathom. I may mention here that this run of ore, as seen in the bottom of the 45, extends from 10 fms. west of the hauling shaft to 20 fms. east of it, in all 30 fms., and worth 4½ tons of 20 per cent. ore per fathom, and dipping as it is at an angle of 45°, the 55 will meet with it after driving another 25 fms. . . . Judging from the yield of the lode in the 45 we may expect to raise 15 0 tons of 20 per cent. ore above the 55 without allowing for any from other parts of the lode than the main shoot. . . . Morphett's Lode: The engine-shaft is down 43½ fms. from the surface. The lode is worth from the 30 to the bottom, and continuing, 3 to 4 tons of 17 per cent. ore per fathom. The 30 east it driven 55 fms. from the shaft, the lode being orey throughout. Two tribute pitches are set to eight men, at an average of 6s. 4d. in *l.* Two winzes are sunk from the 20, east of the pitches, and room made for three other pitches. These latter will be set as soon as I ascertain the width of the lode which is now being excavated.

The eastern winze in a line with No. 1 trial shaft is just holed to the 30, and the men are now stripping down the lode, which is from 10 to 12 ft. wide, and yielding a large quantity of ore. The pitch in the 30 west is being worked by four men; this pitch, added to the eastern ground, makes the ore ground (with an occasional poor patch) 70 fms. in length, or 630 fms. from the back of the 30 to the bottom of the 20. This level represents a reserve of about 2000 tons of 17 per cent. ore, less (say) 50 fms. worked out, or (say) 150 tons, leaving 1850 tons. Morphett's shaft will be down to the 45 by the end of March, when driving will commence through the lode described above, so that by the end of 1879 we shall lay open a block of ground 70 fms. long by 15 fms. high, equal to 1050 fms. of lode, which at 3 tons per fathom will yield 3150 tons of 17 per cent. ore appoximately. I make these statements to show that the ore raised during the past year must not be accepted as the average yield of the mine when the lodes are fairly laid open for working. —Ore Returns: 100 tons of 17 per cent. ore have been shipped per St. Vincent. On hand at the mine—121 tons of 13¾ per cent., 400 tons of smalls of 5 per cent., and 1000 tons of dredge ore of 5 per cent.

SCOTTISH-AUSTRALIAN.—The directors have received advices from Sydney, dated Dec. 24. The total sales of coal from the Lambton Colliery during the month of November amounted to 16,488 tons.

ENGLISH-AUSTRALIAN (Gold).—Capt. Raisbeck, Fryerstown, Dec. 25: Since the 27th ult. we have extended No. 2 rise 420 ft., level 45 ft., and holed to the 320 feet level. The quartz has varied in thickness from 1 to 3½ ft.—a strong workable lode, but no gold visible; we crushed 25 tons. Result, 12 dwts. of amalgam. We have 20 tons from the top of the rise at surface; will crush it when convenient. Since we holed we have secured the top of the rise and the 320 ft. level with timber. The men are now driving north and south on the lode, 67 ft. above the 420 ft. level; the lode is 4 ft. thick; we have seen gold in the stone, but as far as proved it is very poor. We shall break stone in different places in the rise to test it before we commence driving south in the 420 ft. level. The mine is now well ventilated in every part. The tributers crushed 440 tons of stone; result, 23 ozs retorted gold, which is not profitable to the company or tributers; this stone was broken within 30 ft. of the south boundary. When rising upon the lode they met with a large body of quartz, showing very little gold, but easily broken. They, thinking the quantity would make up for the quality, neglected to work the smaller leaders of quartz, which have invariably proved the richest. They will pay more attention to them this month, I hope, with better results. We crushed for the tributers' working on the north boundary 40 tons of quartz, and the result of which was 1 oz. 4 dwts. of retorted gold. We have crushed 8 tons for the public at 5s. Seeing our engine was consuming more fuel than it should do, after cleaning up on the 20th, we gave it a thorough overhauling, and it is now in better working condition than it has been for some years. I was not satisfied with the levels from the Government reservoir to our water dam. I had it levelled by the mining surveyor. He has made a difference of 2 ft. 6 in. from the original survey. He finds our dam to be 4 ft. 2 in. above the outlet pipe of reservoir; that being the case, I do not think we can get a supply from the Government mains, and to cut an open race over the top of the reservoir will cost more than our present circumstance will admit of.

TRANSPORT OF COAL.—The invention of Mr. T. SNOWDON, of St. Mary Axe, consists in providing hexagonal boxes or vessels (preferably made of steel) in which the material to be transported is placed. These boxes or vessels may be placed in the hold of a vessel, and are of gradually decreasing sizes or dimensions, so that when empty they may fit into each other. By this means the coal or other material, when once placed in the hexagonal box or vessel, can be transferred to the ship or vessel by means of steam cranes or other suitable apparatus, and conveyed to its destination, thus avoiding all labour, loss of time in discharge, and breakage of material.

The directors of the British Wagon Company (Limited), recommend payment of a dividend at the rate of 9 per cent. per annum for the past half-year. During that period the company has made a profit of over 2900*l.*

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Feb. 13—Talargoch:—				
	Maesyrerwddu	40	£ 9 7 6	Walker, Parker, & Co.
	Coetia Llys	20	9 8 6	Adam Eyton.
	—North Hendre	100	8 14 6	ditto
	— ditto	100	8 13 6	Walker, Parker, & Co.
	— ditto round ore	25	10 2 6	ditto
	—Prince Patrick	40	9 2 6	ditto
	—Rhydalun	25	8 13 0	Quirk, Barton, and Co.
	—Halkyn Deep Level	17	8 19 0	Walker, Parker, & Co.
	—Speedwell	5	8 8 0	Quirk, Barton, and Co.
	—Parrys	5	8 6 6	Walker, Parker, & Co.

BLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Feb. 12—Talargoch		55	£ 3 2 6	Bagillt Smelting Co.
—	ditto	55	3 0 6	Richardson and Co.
—	ditto	55	3 0 6	Vivian and Sons.

AUSTRALIAN TIN ORE SOLD IN LONDON.

Date.	Tons.	Price per ton.	Purchasers.
Feb. 11	3 15 c.	£31 15 0	T. Bolitho and Sons.
	0 10	31 5 0	ditto

PERUVIAN TIN ORE SOLD IN LIVERPOOL.

Date.	Tons.	Price per ton.	Purchasers.
Feb. 13	2 5 c.	£31 5 0	Redruth Tin Smelting Co.
	2	31 5 0	R. R. Michell and Co.

The Llansawel Lead Mining Company

(LIMITED).

CAPITAL £30,000, IN 6000 SHARES OF £5 EACH.

£1 on application; £1 10s. on allotment.

Incorporated with Limited Liability under the Companies Acts, 1862 and 1867, by which the liability of the shareholder is strictly limited to the amount of his shares.

DIRECTORS.

Colonel ARTHUR NEED, J.P., Fountain Dale, Mansfield, Notts.
JAS. CROSSLAND, Esq., Longwood House, Fixby, Huddersfield.
J. HENRY OUTHWAITE, Esq., Bedford Park, Chiswick.

BANKERS—NATIONAL PROVINCIAL BANK OF ENGLAND, Lincoln's Inn, Carey-street, London.

SOLICITORS—Messrs. BLAKE AND WEALL, 22, Surrey-street, Strand, London.

CONSULTING ENGINEER—R. J. FRECHEVILLE, Esq.

SECRETARY—JOSEPH J. OUTHWAITE.

REGISTERED OFFICES,—4, AGAR CHAMBERS, AGAR STREET, STRAND.

PROSPECTUS.

This company is formed for the purpose of acquiring the lease and plant of and for working the valuable mines, veins, lodes, and seams of lead and all other metallic ores in and under the farms and lands known as Talley Demesne, Penygarrey, Cilfynfawr, and Bwlchyrhyd, situate in the parishes of Talley and Llansawel, in the county of Carmarthen, and containing about 201 acres. The company have also taken other powers in the Memorandum of Association for more advantageously working the mines comprised in the said lease or under any adjacent lands.

The lodes of the mines are a continuation westward of the celebrated lodes of the Nant-y-Mwyn Mines, which have been worked to immense profit. The sett is extensive, running about one mile from east to west, and the same extent north and south, and contains a number of well-defined lodes.

The property is held under lease, dated 16th November, 1878, for 21 years from Michaelmas, 1878. The yearly rental is £20, merging into a royalty at the low figure of 1-16th.

Plans, showing the exact position of the lodes, with reports by eminent and practical mining engineers, may be obtained, and specimens of the ore seen at the company's offices.

The mines are about seven miles from the railway stations of Llandilo and Talley Road, so that the produce can be conveyed thither at little expense. The projected railway from Llandilo to Lampeter will pass within a quarter of a mile of the mine, and will when constructed be of great advantage to this property. The extent of work already done may be seen from the plans and reports. It includes a deep adit level driven upwards of 250 fathoms, which effectually drains the mine, thereby saving the expense of pumping machinery. Two other levels have been driven above this. A shaft has been sunk from the surface connecting these levels. All these works have been done at a large expenditure. Judging from the quantity of ore the mines have already yielded, and the present existing defined lodes, together with the favourable reports of experienced mining engineers, it is confidently anticipated that with a further moderate outlay in the erection of necessary machinery, and for further development, the mine will be productive and profitable.

The services of Mr. R. J. Frecheville, Associate of the Royal School of Mines, who has had ten years practical experience of mining, both at home and abroad, have been secured as consulting engineer for the company.

The vendor has agreed to dispose of his interest for £15,000, of which £1000 is to be paid in cash, upon transfer, and £1000 by instalments—viz, one moiety in six months and the other in twelve months. The balance in paid-up shares of the company, which shares shall not be transferable until a dividend of 5 per cent. has been paid to the ordinary shareholders out of profits, nor until 1000 other shares shall have been applied for and allotted.

The only contract entered into on behalf of the company is dated 23rd December, 1878, and is made between John Henry Outhwaite of the one part, and Alfred Stephen Groom for and on behalf of the company of the other part, being the contract for the purchase of the property and plant, which, together with the Articles of Association, may be seen at the offices of the company.

Applications for shares may be made to the bankers on the form enclosed in the prospectus, or to the Secretary of the company. Should no allotment be made the deposit will be returned without any deduction; and should a smaller number of shares than those applied for be allotted to any applicant the balance of his deposit will be applied towards the amount payable on allotment.

Prospectuses and forms of application for shares may be obtained at the offices of the company, or of the bankers.

No promotion money whatever will be paid. The preliminary expenses will be confined to the amount actually expended in the formation and registration of the company.

EXTRACTS FROM THE REPORTS OF WELL-KNOWN MINING ENGINEERS.

Capt. JOSEPH EVANS, in his report, dated April 11, 1878, says:—There are four lodes, running nearly east and west. I would recommend you to open the engine-shaft to deep level, where you will find a branch of lead ore yielding 3 tons per fathom. I have seen in the stopes 14 in. of solid lead. The mine bears evidence for itself, and only requires a little time to make it one of the most profitable in Wales.

Also, Capt. W. HANCOCK, in his report, dated Nov. 30, 1878, says:—In my opinion you will be amply remunerated for your outlay (for further information see plan and section recently made). A great feature is the mine can be worked at a considerable depth without the aid of pumping machinery.

R. J. FRECHEVILLE says:—I visited your Llansawel Mines, near Talley, South Wales, and found that you had in your No. 4 level a vein showing 4 in. of lead. As this is at a depth of not more than from 15 to 20 fms. below the surface, and the hill rising above you gives a large quantity of backs, I consider it to be an exceedingly favourable prospect. In the No. 2 and No. 3 levels there are at least two other veins; from their appearance and the general character of the ground, I am of the opinion that they will amply repay further explorations. The No. 1 or deep adit will drain these mines for some years to come, and thus obviate the necessity of erecting pumping machinery. The killas which forms the country rock, and the elvan course which is in close proximity to your mines, are favourable indications of this class of mine. The other conditions of working are favourable. I think from what I have seen that you have a valuable property.

Capt. W. T. BRYANT, in his report, dated Dec. 20, 1878, says:—You have in this mine a valuable property, and from appearances I am of opinion that it will justify the outlay of capital for development, and well worthy the consideration of capitalists as a good investment. I have confidence in recommending it as such.

Registration of New Companies.

The following joint-stock companies have been duly registered:—

BRYNBEDWEN LEAD MINING COMPANY (Limited).—Capital 20,000*l.*, in shares of 5*l.* To carry into effect an agreement made between J. P. Parry, Thomas William, and J. Court, of the one part, and Thos. Morris for the company, for acquiring by purchase or otherwise certain mineral properties, lands, and premises situate at Brynbedwen, Montgomeryshire, or elsewhere, and holding and working same, the searching for and raising ores of lead, copper, blende, and all other ores, minerals, and metallic substances, and trading in the same. The subscribers are—T. Williams, Montgomeryshire, mining agent, 20; J. P. Parry, Liverpool, accountant, 20; M. Drysdale, formerly builder, 20; T. Morris, Seacombe, gentleman, 20; T. H. Roberts, Llandloes, mineral agent, 40; J. P. Court, Liverpool, solicitor, 10; J. Morrison, Liverpool, accountant, 2.

BAVARIAN LEAD MINING COMPANY (Limited).—Capital 70,000*l.*, in shares of 20*l.* The purchasing certain lead mining concessions near Freihung, Bavaria, the purchasing or taking upon lease any other mines, quarries, and mineral lands in Bavaria or elsewhere in Europe; the acquiring of minerals, clays, earths, pits, smelting, and other works, engines, machinery, plant, and conveniences for the purpose of carrying on mining and smelting operations in Bavaria and elsewhere. The subscribers (who take one share each) are—B. Nixon, 3, Stanhope-terrace, banker; C. Wynne, Sydenham, colonel; A. A. Wynne, 5, Westminster Chambers, C.E.; E. Garcke, 5, Westminster Chambers, secretary; R. Fowler, 3, Victoria-street, solicitor; W. Jackson, Battersea, clerk; C. Hopkins, Kilburn, accountant. The first directors shall be Messrs. Brinsley Nixon, James R. Stewart, jun., Colonel C. Wynne, and A. A. Wynne; qualification, 50 shares.

RUSHFORTH BROTHERS AND COMPANY (Limited).—Capital 1050*l.*, in shares of 1*l.* 10s. The purchasing or otherwise acquiring manufacturing and making steam and other engines, mills, machinery, tools, implements, utensils, carts, &c. Buying and selling the articles aforesaid. The subscribers (who take one share each) are—J. Armstrong, Cockermouth; Thomas Armstrong, Cockermouth; H. Ritson, Cockern; J. Millican, Cockermouth; J. Starkie, Cockern; W. Robinson, Cockermouth; R. Moscrop, Cockermouth.

MALDON MUTUAL MARINE INSURANCE ASSOCIATION (Limited).—The mutual insurance of fishing smacks, barges, and vessels, and shares of same belonging to the members. Every member undertakes to contribute to the assets of the association during the time he is a member, or within one year afterwards. The subscribers are—S. Clarke, Maldon; J. Rogers, Maldon; J. Sadler, Maldon; R. Smith, Maldon; W. Simpson, Maldon; D. Cramptorn, Maldon; J. W. Hawkes, Maldon.

LONDON AND PROVINCIAL STEAM LAUNDRY COMPANY (Limited). Capital 50,000*l.*, in shares of 5*l.* To establish steam laundry works in London and elsewhere, and generally to carry on a laundry business in all its branches. The subscribers are—Hon. Algernon Grosvenor, 35, Park-street, 1; F. E. Kerr, 32, Lexham Gardens, 5; G. C. Paget, 100, Eaton-square, 1; F. B. Bulkeley, Southsea, 1; W. T. Croft, Southsea, 1; J. T. Helby, Lower Tooting, 1; E. Cottle, 3, Savile-row, 1.

THE UNITED KINGDOM MARINE MUTUAL INSURANCE ASSOCIATION (Limited).—The mutual insurance against every description of marine risk of ships of all kinds, in which the members are interested as owners, mortgagees, trustees, &c., with common liability for all expenses. The subscribers are—T. Dalzell, Liverpool; P. Sutherland, jun., Liverpool; D. Jones, Liverpool; Thos. Sutherland, Liverpool; G. M. Steeves, Liverpool, A. Armstrong, Liverpool; W. Malcomson, Liverpool.

MURRAY AND COMPANY (Limited).—Capital 45,000*l.*, in shares of 10*l.*, whereof 1500 shall be preference shares and 3900 ordinary shares. The carrying out of two agreements entered into with John Brathwaite. The purchasing, leasing, or otherwise acquiring of any mines, mining ground, quarries, or deposits of limestone, chalk, clay, or other minerals in the United Kingdom or elsewhere. The searching, digging, and prospecting for and winning, working, manufacturing, selling, &c., the foregoing and all other minerals. The carrying on the business of builders, contractors, miners, and manufacturers. The subscribers (who take one share each) are—D. W. Wilson, Putney, agent; A. H. Lindgren, Hornsey, merchant; George Reynolds, Streatham, shipbroker; G. M. Morris, Limehouse, clerk; Antonin André, Old Broad-street, agent; F. Wilton, 23, Camden Park-road, merchant; A. W. Higgs, 3, Buckingham Villas, agent. With the exception of the first directors, the qualification shall be at least two shares. Nothing debars the directors being interested in other companies or private firms, whether as managers, directors, or partners, notwithstanding such companies or firms may be carrying on a business similar to that of the company.

EDWARD STEEGMAN AND COMPANY (Limited).—Capital 100,000*l.*, in shares of 10*l.* To purchase the business of lace finishers, and hosiery, lace, and general merchants, now carried on by Messrs. E. Steegman and Co., at Nottingham, Manchester, Glasgow, and Calais, with the warehouse at Nottingham, building, plant, &c., and the carrying on the said business. The subscribers are—E. Elsey, Nottingham, 200; J. Fearfield, Nottingham, 40; G. Stretton, Nottingham, 10; F. L. Guilford, Nottingham, 10; R. H. Steegman, Nottingham, 1; E. B. Steegman, Nottingham, 1; J. Bemrenther, Nottingham, 1.

BRISTOL AND WEST OF ENGLAND CO-OPERATIVE FURNISHING ASSOCIATION AND AUCTION, APPRAISEMENT, AND COMMISSION AGENCY (Limited).—Capital 10,000*l.*, in shares of 2*l.* To carry on the business of a co-operative society in all its branches. The subscribers (who take one share each) are—J. A. Wheeler, Cardiff; H. Bessell, Bristol; J. Hulbard, Kilburn; W. C. Gerrist Bedminster; J. Ellis, Bristol; A. J. Thornley, Bristol; H. M. Williams, Cotham.

THE LONDON DISTRICT HOUSE PROPERTY INVESTMENT COMPANY (Limited).—Capital 10,000*l.*, in shares of 10*l.* To buy, hold, lease, and sell land, and build, buy, own, lease, and sell houses, and generally deal in estates. The subscribers are—A. B. Trotter, Champion Hill, 5; J. W. Maxwell, Canonbury, 5; J. C. Moore, Shoreditch, 1; R. S. Alder, Brixton, 1; W. H. Baker, Brixton, 5; R. Emerson, Stockwell, 1; F. B. Baker, Brixton, 1.

"HUGH SLEIGH" STEAMSHIP COMPANY (Limited).—Capital 23,040*l.*, in shares of 360*l.* To acquire by purchase the steamship "Hugh Sleigh," to carry out the contract to build the above-named steamer, and to purchase and build other steamships provided the company shall only own one steamship at a time. The subscribers are—J. Bovey, Cardiff, 2; S. Bovey, 79, Gracechurch-street, 2; J. Barrett, Addiscombe, 2; T. Primavesi, Cardiff, 2; A. Tucker, Harberton, Yeoman, 2; H. Sleigh, Leek, 3; J. Holman, 23, St. Mary Axe, 2 shares.

THE BANK OF BOLTON (Limited).—Capital 1,000,000*l.*, in shares of 20*l.* each. To carry on all businesses usually carried on by bankers. The subscribers are—J. Knowles, Bolton, 500; Thomas Barnes, Flamworth, 2000; Thomas Moscrop, Bolton, 500; W. Taylor, Bolton, 2000; James Knowles, Bolton, 1000; Charles Johnson, Bolton, 100; Richard Stockdale, Bolton, 200; John Musgrave, Bolton, cotton-spinner, 1000; James Musgrave, Bolton, engineer, 1050; T. W. Holden, Bolton, wine and spirit merchant, 200; George Woodhouse, Bolton, architect, 250; T. Glaister, Bolton, bleacher, 500; F. Heaton, Bolton, cotton-spinner, 1000; T. Walmsley, Bolton, iron manufacturer, 50; W. Ainsworth, Bolton, cotton-spinner, 25; W. Nicholson, Bolton, draper, 120; P. Martin, Chorley, no occupation, 2000; W. Slater, Bolton, bleacher, 1000; C. H. Holden, Bolton, solicitor, 150; P. Kevan, Bolton, accountant, 150.

EUROPEAN TRAMWAYS COMPANY (Limited).—Capital 200,000*l.*, in shares of 10*l.* To purchase or otherwise acquire concessions for and make tramways in Europe for the conveyance of passengers and goods between such places as the company may from time to time determine. To acquire any land, buildings, plant, carriages, horses, &c., for the foregoing purpose. The subscribers (who take one share each) are—C. W. Ewbank, 2, Greek-street, Soho; A. Risinann, Peckham, accountant; T. Egan, 78, Old Broad-street; G. A. Everett, 10, Alfred-place; H. Potter, 30, Sewardstone-road; T. W. Marten, 32, St. Swithin's-lane; E. Schubert, St. Swithin's-lane.

THE ITALO-ENGLISH PURE ASBESTOS COMPANY (Limited).—Capital 12,000*l.*, in shares of 10*l.* To carry into effect an agreement with Auguste Lafage, of Turin, Italy, manufacturer, to acquire concessions and mining rights for winning and working asbestos and other minerals in Italy and elsewhere. To carry on the business of winners and workers of asbestos and other minerals, and manufacturers of and dealers in asbestos goods, and of any other products of the company's mines. The subscribers (who take one share each) are—Charles J. Allport, 11, Queen Victoria-street, engineer; H. A. Allport, Nottingham, C.E.; James J. Allport, Derby, railway manager; R. Speight, Derby, railway manager's assistant; E. M. Needham, Belpor, railway superintendent; A. A. Langley, 10, Kent-terrace, C.E; A. Allott, 6A, Austinfriars, accountant. The first directors to be Auguste Lafage and Charles J. Allport in the purchase agreement mentioned, and such others as J. J. Allport shall appoint. The first managing directors to be A. Lafage and and C. J. Allport. Every director must be a shareholder, but no special share qualification.

Mining Correspondence.

BRITISH MINES.

ABERLLYN.—J. Roberts, Feb. 12: In the forebreast of the No. 2 adit driving north, in addition to the blende, we seem to have struck on a nice bunch of lead; as it is in the very bottom of the end, and as we cannot follow it down to prove it, I would not like to say very much about it as yet. I would, however, say that I have very high expectations of finding lead in no small quantities under or associated with the blende, for it would be almost an unheard of freak in Nature to cause it to be otherwise. We have had some good stones of lead also in cutting through the lode behind this end; the lode here is looking well for blende also, and so is the winze in the bottom of No. 1 level. The machinery is being erected with all possible speed, and no time will be lost in making it ready at the earliest moment.

BLUE HILLS.—S. Bennetts, P. Bennetts, Feb. 8: The lode is not as yet met with in the Blue Burrow shaft; the sinking progresses very satisfactorily. The north lode in the 30 east end still looks very well, and is worth 12*l.* to 14*l.* per fathom. The two stopes in the back of this level are worth 8*l.* and 5*l.* per fathom.

BODIDRIS.—H. Hotchkiss, Feb. 13: We are making good progress in sinking the engine-shaft, considering the hard nature of the ground; we shall, however, soon be through the hard bar of ground, when I hope we shall soon be in a good course of ore. In the 45 end we have met with a slide, which has turned the lode several degrees to the north, and I am strongly of opinion that we are nearing the junction of the two lodes; the character of the lode holds good, containing blende and spots of lead ore. In the rise above the 60, upon Maes y pwll lode, I have started a cross-cut to see the whole width of the lode. After breaking away about 1 ft. of hard rock we came into a small swallow, or cavity, containing various mineral compounds and small cubes of lead ore. After driving a little further south we have come into the soft part of the lode, from which we have extracted solid lumps of lead, some of them 1 lb. weight. I have seen in similar ground magnificent courses of ore, and I believe we are now on the right track for a good discovery in this part of the mine.

BWLCH UNITED.—N. Bray, Feb. 8: As I informed you, the wheel resumed pumping on Monday last, and we expect the water will be drained to the 60 fm. level by Monday. The value and appearance of the stopes in the bottom of the 60 shows no falling whatever; I consider sufficient trial work on this ground has been done to establish the fact of a considerable length of ore-y ground; and in order that it may be wrought in a more systematic and economical manner, I should recommend that as soon as the water is below the 70 a rise be put up from that level to communicate with the stope undes the 60, which is getting unhandy from water and other causes.

CLEMENTINA'—J. Roberts, W. Sandoe, Feb. 12: We shall complete the masonry work at the water-wheel pit this week, after which we shall commence directly the erection of the wheel. We have put the new pumps in hand, and expect that they will be ready at an early date.

COMBMARTIN.—T. Comer, Feb. 13: The caunter lode in the north-west adit level is looking better to-day than it has for the past few weeks, the lode maintaining its usual size, 3½ ft., containing killas, quartz, gossan with a good mixture of lead and blende, saving work. We have cut through the caunter lode in the adit cross cut we referred to in our report last week. The lode is about 8 ft. wide, with two well defined walls underlying about 1 ft. in 6. The lode contains flookan, quartz, mundic, and good spots of lead and blende. The ground in the present end of adit cross-cut is principally capels, with spots of copper and mundic in the joints. The new lode east of adit cross-cut is about 4 ft. wide, composed of killas and veins of quartz, spotted with lead and mundic throughout; a very kindly lode. We think this lode and the caunter will soon form a junction, when we anticipate a good improvement.

CWMYSTWITH.—Feb. 12: During the past fortnight nothing has been done in the 15 cross-cut at Pugh's shaft, owing to the water being in the level since the favourable change in the weather. We have forked the water below the level, and the men are again at work. In Gill's upper level cross-cut driving north the ground still continues favourable, and we are meeting with small branches showing spots of lead and copper ores, and we are daily expecting to cut into the lode. In winze No. 1, sinking on the new lode below Gill's upper level, good progress is being made, but the lode is not looking quite so well as when last reported, now worth 1 ton of lead ore per fathom. The lode in No. 2 winze sinking below Gill's upper level is 5 ft. wide, composed mostly of blende, with a branch of lead on the footwall worth 15 cwts. of lead ore per fathom. Nothing has been done west of Michell's cross cut since the date of our last report, but it will be pushed forward by rock-drill as soon as the frost is gone from the pipes and water-engine. The lode in the stopes over Michell's level will produce on an average 16 cwts. of lead ore per fathom. In the stopes over Level Fawr, on the copper lode, the north branches have been more open, and producing very nice lumps of solid lead, which has very much improved the value of the lode. The tribute pitches are yielding their usual quantity of lead ore. The fine change in the weather has again cleared our water-courses and machinery of frost, and enabled us to set all our machinery going, which is now in good working order, and forking the water fast. Our dressing (since the 10th) has been resumed with a full pare, and we anticipate having a nice parcel of lead ready for our next sampling day.

DENBIGHSHIRE CONSOLIDATED.—R. Prince, A. Francis, Feb. 13: In the 112 east the joint we are driving on shows decided improvement, and there is lead now coming in on one part of the lode. In our workings at the 66 and 80 west we have opened out splendid lead; it is from 1 ft. to 1½ ft. wide, and almost solid, which can be easily and cheaply worked; we are firmly convinced that this lode is the master one of the sett, its bearing is the same as that of Maes-y-Safn, which yielded such enormous returns. Our prospects are splendid.

D'ERESBY CONSOLS.—J. Roberts, W. Sandoe, July 12: We have no change to report here since our last. The end is letting out water freely from the lode on which we are driving, and we are making fair progress towards Cobblers' lode.

D'ERESBY MOUNTAIN.—J. Roberts, W. Sandoe, Feb. 12: There is particular change in No. 1 adit; it is letting out a good deal of water, and showing good spots of lead and blende. No. 2 is much the same as last week—a large lode, with spots of lead and blende. No. 3 rise towards old sump in No. 2 seems to be making a change for the better, and we have reason to expect good lead here shortly. There is nothing new in the stope at No. 4. We are pushing down the Gorse shaft as fast as we can, and in order to accelerate the communication we are putting two men to rise from No. 4 to meet it, which is as many as we can put without interfering with the tramming. We have completed the very troublesome job we had by No. 2 shaft in No. 5 adit, which is substantially done, and we are putting up a horse-pulley at No. 3 shaft for drawing the stuff in future, by which means the clearing towards the winze in No. 4 level will be greatly accelerated. We are making fair progress with the dressing since the frost has broken up, and shall bring about a sampling as soon as we possibly can.

DEVON GREAT CONSOLS.—I. Richards, Feb. 13: Wheal Emma: New Shaft, New South Lode: The new shaft in which sinking is being continued on the north side of the lode is now down about 11 fms. below the 190, and we hope to reach a sufficient depth for a 202 fm. level in about two months from this time, at which point it is intended to cut into the lode, and drive levels east and west on its course, and judging from the very fine looking and productive character of the lode at the 190 above we hope to meet with a profitable lode here also. In the 190 east the lode continues of large size, 5 ft. of which being carried is worth 7 tons copper ore, or 20*l.*, and 8 tons of mundic per fathom. In the 190 west the lode part carrying 4 ft. wide is composed of capel, quartz, peach, and copper ore, worth 1 ton, or 3*l.*, and 4 tons of mundic per fathom. In the bottom of the 190 west a new winze (Hockaday's) is being sunk, in which the lode presents a very fine appearance, being composed of fine capel, quartz, peach, prian, and copper ore, worth for length of winze (9 ft.) 4 tons, or 12*l.*, and 8 tons of mundic per fathom. In Floyd's winze in the bottom of the 175 west the lode maintains its former value, being worth for length of winze (9 ft.) 7 tons of copper ore, or 20*l.*, and 5 tons of mundic per fathom. In the 175 west the lode is 4 ft. wide, and worth 1 ton of copper ore, or 3*l.*, and 3 tons of mundic per fathom. A new rise is being put up in the back of the 175 west, the lode in which is 4 ft. wide, composed of capel, quartz, peach, and copper ore, worth for length of rise (9 ft.) 3 tons, or 9*l.*, and 4 tons of mundic; this rise is being put up to communicate with Floyd's winze in the bottom of the 160 for the purposes of securing more perfect ventilation in this part of the mine, and also for proof of the lode, and where we expect to lay open some profitable ore ground. There is nothing new of importance at any of the other points of operation throughout the mines since last advice on the 6th inst.

EAST DARREN.—Feb. 12: The cross-cut south, at the 104, has been driven during the past month 3 fms. through favourable ground for exploring, showing in the present forebreast small spots of lead ore. The 92, east of cross-cut, on the south lode, has been driven 1 fm. 4 ft. 6 in. in a lode 2 ft. wide, containing a little lead, but of no value. The 92, east of cross-cut, on No. 2 branch, has been driven 1 fm. 4 ft. 6 in. in a lode 1½ yard wide, yielding at present 1 ton of lead ore per fathom. The 80, west of cross-cut, on south lode, has been driven 1 fm. 3 ft. 6 in. in a lode from 3 to 4 ft. wide, yielding on an average 1 ton of lead ore per fathom. The 80, west of cross-cut, on No. 2 branch, has been driven 3 fms. 3 ft. in a lode 3 ft. wide, yielding stones of ore occasionally. The winze under the 80, east of cross-cut, on junction, has been sunk 2 fms. 1 ft. in a lode 6 ft. wide, yielding 1 ton of lead ore per fathom. The stopes and pitches throughout the mine are without change. The machinery is in good repair, drawing and dressing pushed on with all vigour; and we sampled yesterday 40 tons of silver-lead ore for sale on the 25th inst.

GAWTON COPPER.—G. Rowe, G. Rowe, jun., Feb. 8: The lode intersected in the 117 cross-cut south is producing very strong mundic, with good stones of ore. The lode in the 105, west of cross-cut, is 6 ft. wide, yielding 3 tons of ore mixed with arsenical mundic per fathom. The lode in the stopes west of winze, below the 105, is worth 8*l.* per fathom. The lode in the stopes east of winze is worth 10*l.* per fathom. The lode in the stopes in back of the 105 is worth 6*l.* per fm. All other points are without change.

GLENROY.—R. Rowe, Feb. 12: We have still a large lode in sinking the shaft, 10 ft. wide, but there is yet no special alteration; the quartz part carries some lead and blende occasionally, but of no value. I hope we shall soon meet with a change in sinking; the lode is wide enough, all we want is a change for the better in the composition of the lode, which can only be looked for in depth.

GREAT RETALLACK.—J. Harris, Feb. 10: The tributers are meeting with nice patches of blende, but have not yet succeeded in meeting with any large quantity: however, some of the men are still very sanguine they shall do so.

HERODSFOOT.—P. Temby, Feb. 12: On Monday we took possession of the dressing department, and commenced on our stuff which was broken last week. I hope to clean up from 8 to 10 tons of lead this week. On Saturday last we went through the repairs of the engine and boilers. The 205 end, and the three stopes in this level, are of much the same value as last reported, and we have commenced to drive the 190 north; the lode is large, and producing some good stones of lead and copper ore. We have also put in timber, and opened two new stopes in the back of the 205, south of No. 1 winze; the lode is worth fully 6 cwts. of lead per fathom. We shall begin stoping here to-morrow.

HINGSTON DOWN.—Thomas Richards, Feb. 13: I beg to inform you that there is no material change in any part of the mine since the report of last week.

LADYWELL.—Arthur Waters, Feb. 11: The new south shaft is down 7 fms. 3 ft. below the 16 fm. level. The rock we are sinking in is of a blue slatey character, containing small branches of spar and lead ore. This is on the hanging-wall side of the lode. Webster's winze below the 16, south of this shaft, is down 8 fms; there is a good-looking lode here, yielding solid lumps of lead ore—good tribute ground. We have six men this month sinking this winze, and hope to

get down to the 32 between this and setting day. The 16, south of said winze is still opening out a sparry, orey lode, the yield of lead ore being 25 cwts. per fm. We shall have some good stoping ground in the bottom and the back of this level shortly. We calculate on laying open this run of ore ground below the 16 by driving out from Webster's winze, and should the ground in the proposed drivage be like that we are now sinking in we could get up to the said run of ore ground at the rate of 6 to 7 fms. a month, or even faster. If we can get a couple of stopes (say each by four men) at work on ground like this, we could raise 30 to 40 tons a month. Our tribute pitches are yielding small quantities of lead ore. We have commenced dressing operations again.

LEAD ERA.—J. A. Ede, Feb, 12: A thaw having set in towards the latter end of last week enabled us to resume our surface operations. I have set the temporary buildings we are erecting to build at 1s. 4d. per foot, and the stone to be carried from the quarry at 1s. 6d. per load. If this fine weather continues for some time we will have all we require in this department completed in a fortnight. The lode in the adit is not so firm, which is accounted for by the country being softer, being an argillaceous sandstone favourable for driving; before we reach the top flat I shall expect yet softer ground, which will also in its course similarly affect the lode. No. 1 shaft is being rapidly sunk; to-morrow I intend ascertaining the depth from where I can put men to drive to meet the adit forebreast. This being our principal point, I am making every exertion to push it on; before long it is not improbable but that I can advance this level from 20 to 30 fms. per month. The ground comprising the bottom of the shaft continues the same, being a siliceous or cherty sandstone. I am pioneering with a few men at different parts of the sett, and will soon have a reliable and complete section of the property.

LISBURNE.—Feb. 12: Glogfawr: The 75 east, on the north part of the lode, is yielding a little lead ore, but not enough to value. In the 60 east the lode is yielding saving work for the dressing-floors. The 45 east is yielding saving work for the dressing-floors. The 45 west is poor. In the winze below the 33 east the lode is 1 ft. wide, worth ⅓ ton of lead ore per fathom. In the cross cut north in the 12, east of cross-course, nothing has been met with as yet. The lode in the deep adit east contains small branches of lead ore, saving work for the dressing-floors. The deep adit cross-cut west, through the cross-course, is in 20 ft., and not intersected the western wall of the lode; the part passed through is poor. There are 12 stopes working, which are worth each on an average 16 cwts. of lead ore per fathom.—Penlaufach: In the deep adit east the lode is 2½ ft. wide—poor. In the cross cut north in Llethar, about 4 ft. behind the forebreast, we passed through a lode 2 ft. wide; underlying north—poor.—Glogfach: In the 103, west of western shaft, the lode is 2 ft. wide, producing occasional stones of silver-lead ore, but not in sufficient quantities to value.—Gwaithgoch: In the cross-cut north in Level Naut the ground is favourable, and the men are making fair progress.—Logylas: The Pendre shaft from surface shaft all in lode yielding small strings of lead ore, but not to value. In the deep adit, west of Taylor's shaft, the lode is 3 ft. wide, composed of a dark clay-slate, spar, and carbonate of lime. In The deep adit east, on Pen-y Gest lode, the lode is 18 in. wide—poor. In the deep adit east, on a lode 60 fms. south of the Pen-y-Gest lode, the lode is 2 ft. wide—poor. The whole of our pumping, drawing, and dressing machinery is again in full operation, and we hope that by working overtime we shall eventually be able to make good our loss, if not again prevented by the weather.

LLANRWST.—R. Knapp, Feb. 13: We have intersected the caunter lode south of the diagonal shaft; it is a promising lode, about 2 ft. wide; but as it was intersected in a cross-course I cannot say much about its value yet. There is a branch or part of the lode 8 to 10 in. wide, producing very good leadstuff. We have now commenced to drive west on its course, and in a few days shall be able to speak more definitely concerning it. The 14 west is just the same as when I wrote you last, but the 14 east is not good for lead; the lode has become more loose and porous, much speedier for driving, but not producing as much ore. The character of the lode is beautiful—friable sugar spar, and large patches of lead, and almost entirely free from sulphur. The lode in the adit end is a little improved in value, but in the winze sinking under the adit it is not quite so good. Altogether I consider the prospects better than when I last wrote you.

MARKE VALLEY.—Wm. George, James Stenlake, Feb. 7: We beg to hand you the following setting report:—The driving of the 90 west to be continued by six men, as per contract set two months since; the lode here is 2 ft. wide, composed of quartz, intermixed with granite, containing good spots of copper ore and mundic. To stope the bottom of the 50, by six men, at 3l. 10s.; yielding 6 tons of ore per fathom. To stope the back of the 50, by four men, at 2l. 10s.; yielding 3 tons of ore per fathom. To stope the bottom of the 40, by four men, at 2l. 10s.; yielding 3 tons of ore per fathom. Two stopes in the back of the 40, by six men in each, at 2l. per fathom; yielding 3¼ and 4 tons of ore per fathom. To stope the back of the 20, No. 1, by four men, at 4l. per fathom; yielding 3½ tons; and No. 2, by two men, at 2l. 9s.; yielding 2 tons of ore per fathom. To drive the 10 west, by four men, at 7l.; lode 1½ ft. wide, yielding 1¼ ton of ore per fathom. To stope the back of the 10, by six men, at 4l.; yielding 3 tons of ore per fathom. A pitch in the bottom of the 90, on Rosedown lode, by four men, at 8s. 6d. in 1l.; a pitch in the back of the 80, on Rosedown lode, by two men, at 12s.; three pitches in the bottom of the 60, on Rosedown lode, by two men, at 10s. 6d., 12s., and 12s.; a pitch in back of the 60, on Rosedown lode, by two men, at 11s.; a pitch in the back of the 30, on Rosedown lode, by two men, at 10s.; a pitch in the bottom of the 20, on Rosedown lode, by two men, at 11s.; two pitches in the back of the 20, on Rosedown lode, by two men, at 11s. and 12s.; a pitch in the bottom of the 10, on Rosedown lode, by two men, at 13s. 4d.; two pitches in back of the 10, on Rosedown lode, by two men, at 7s. 6d. and 13s. 4d.

MELLANEAR.—John Gilbert, Feb. 12: The lode in the 30, west of Gundry's shaft, is 3½ ft. wide, and worth 3½ tons of copper ore per fathom. The lode in the 40, west of Gundry's shaft, is 1 ft. wide, and producing good stones of ore, but not sufficient to value. The lode in the 50, west of shaft, is 1½ ft. wide, and producing a little saving work for copper ore and blende. The lode in the 60, west of shaft, is 3 ft. wide, and worth 2 tons of ore per fathom. The lode in the 70, west of shaft, is 5 ft. wide, and worth 2½ tons of ore per fathom, and the ground is very much improved for driving. The rise in the back of this level on the north part of the lode is worth 3 tons of ore per fathom. The lode in the 80, west of shaft, is 5 ft. wide, and worth 2½ tons of ore per fathom, and looking promising for further improvement. The lode in the 90, west of shaft, is 3 ft. wide, and worth 3 tons of ore per fathom. The winze in the bottom of this level, east of shaft, is worth 2 tons of ore per fathom. The lode in the 100, west of shaft, is 4½ ft. wide, and producing good stones of ore. The lode in the 100, east of shaft, is 2 ft. wide, and still worth ⅓ ton of ore per fathom. Gundry's shaftmen are making very good progress in cutting the ground for bearers and cistern plat, and we hope to get everything ready for fixing the plunger lift by the end of this month.—Skip-Shaft: The ground in the 70 cross-cut, south of the main lode, has improved a little, and the men are making good progress. The lode in the 100, west of shaft, is 4 ft. wide, and worth ½ ton of copper ore per fathom, and some occasional stones of good tin ore. There is nothing new to report on in any other part of the mine. We shall sample on Tuesday next about 595 tons of copper ore.

MINERAL CORPORATION OF GREAT BRITAIN.—W. Bennetts, Feb. 12: HAFNA AND HIGH HAFNA MINES: No. 1 Adit: There is no change calling for special remark at this level since last week's report. In No. 2 adit the lode is 4 ft. wide, with a good mixture of lead and blende, all of which must be saved for the dressing-floors. In No. 3 adit the part of the lode that we are driving on is 4 ft. wide, and worth fully 2 tons of blende per fathom, with good spots of lead mixed with it; the above end has very much improved during the past day or two. In the rise in the back of No. 3 level the lode is looking well, and worth 10 cwts. of lead and 3 tons of blende per fathom. In No. 4 adit the lode in the end is producing some good lead work for the dressing floors. At surface we are busily engaged in building the office, &c., and the embankment of the reservoir.—GREAT D'ERESBY MINE: The men are making good progress in driving the deep adit level. The lead referred to in former reports is still holding on.—BRYN CANADON MINE: We are getting on as fast as possible, and I am pleased to say that the lode in the winze that we have cleared up is worth from 10 to 15 cwts. of lead per fathom.

MONYDD GORDDU.—James G. Green, Feb. 12: Driving was resumed in the 54 end west on the 10th inst.; the end is now extended 9 fms. 1 ft. 3 in. west from cross-cut, and I informed you in a previous report that there was about 12 fathoms from cross-cut to the line of dip of the junction of the south caunter and main lodes, at which point the ore has occurred in the upper lodes, and where I confidently expect a rich course of ore at this level—the 54. There is, therefore, still 3 or 4 fms. to drive to get to the point aimed at. The part of lode carried is about 5 ft. wide, composed of a compact light-blue killas, with branches of crystallised quartz and felspar, containing strong spots of lead ore, altogether a most congenial and promising end; set to six men, at 110s. per fathom; the ground is rather tight for progress. A favourable feature in the 54 is that the lode seems to be more settled and defined, and the accompanying rock is in a much more compact and close form than upwards, and I augur from this that we shall have a great improvement as depth is attained. I would advise that arrangements be made for sinking the shaft another draft during the coming summer. The rising of the water in the mine during the late severe frost has given us a lot of trouble and expense in the 24, as I have previously reported. We have timbered and cleared through the fall 5 fms., and we have another week's work at least to get through; until this is done we cannot get any orestuff from our best stopes. The stope over the 12 west is set to six men, at 60s. per fathom, worth 20 cwts. The above are the only points in operation at present. We have now a good supply of water, and drawing and dressing are being pushed forward with all speed possible on low-grade stuff from the 12. We shall sample 20 tons of lead ore on Saturday.

NORTH TRESKERBY.—Martin George, Feb. 12: The lode in Doctor's engine shaft is 4½ ft. wide, yielding strong mundic and copper ore to save. The lode in the 24, driving east of engine-shaft, is 3 ft. wide, composed of quartz, mundic, and copper ore, but not to value. The lode in the 24, driving west of engine-shaft, is 6 ft. wide, and worth 1½ ton of copper ore per fathom. The lode in the 12, driving west of the cross-course, is 5 ft. wide, and worth 1 ton of copper ore per fathom. The lode in the winze sinking below the 12 is 4½ ft. wide, and yields 2½ tons of copper ore per fathom, with a good appearance. The pitches look just as usual.

PANDORA.—H. Nottingham, Feb. 12: New Lode: The 33, driving south, is going forward in a wide productive lode: we are driving on the hanging side, and the part carried is worth 1¼ ton of lead and 1 ton of blende per fathom, with a good mixture standing on the footwall side of us.—Goddard's Lode: The 33, driving south, is looking a little better; the lode is promising better, and showing a little lead and blende, which I think will shortly improve. The rise over this level, to meet the winze from the 23 north, is worth 15 cwts. of lead and the same of blende per fathom.—New Lode: In the 23 there is no change in the end going south, on footwall of lode. The No. 1 winze, sinking under this level, is looking well, worth for size of winze 2 tons of lead and 1 ton of blende per fathom. The water is still very troublesome here, which retards the sinking. No. 2 stope, over this level, is worth ¾ ton of lead and ½ ton of blende per fathom.—Goddard's Lode: In the 23 the end going north has slightly improved, but not to value; ground hard for driving. No. 1 winze, under this level, is worth ⅓ ton of lead and the same of blende per fathom. No. 1, north of shaft cross-cut, is worth ¾ ton of lead and the same of blende per fathom. No. 2, south of this, is worth 1 ton of lead and ½ ton of blende per fathom. At surface we are now making fair progress in drawing and dressing of stuff, and in a month's time, with fair weather, we shall have a good sampling of lead.

PANT-Y-MWYN.—Thomas Hughes, Feb. 13: I am pleased to say the mine has been drained for several weeks past. Owing to the sudden thaw of snow the water again interfered with our underground operations, caused by a fall in the day level to the east of our mine, which we hope to be able to clear as soon as the weather permits. Our engine drained the mine dry in seven days. We are troubled with little or no water below the day-level. I still continue sinking the Modlyn shaft through a splendid course of lead ore, estimated to be worth from 3 to 4 tons per fathom. We have now sunk this shaft 16 yards below the day level and 116 yards from the surface, and have met with no water. There is a very large quantity of rich ore lying on the banks from the workings of the Modlyn and Griffiths shaft, and now, as the weather has broken up, we shall be enabled to carry on dressing operations without interruption, and resume our regular sales of lead. Our prospects for the present year are, I am gratified to say, almost unsurpassed by any mine in the district. We have our full complement of men at work at different points of the mine breaking lead, driving, sinking, &c., and all our machinery is in good working order.

PATELEY BRIDGE.—C. Williams, Feb. 13: The Rake vein in the 30 east is 4 ft. wide, consisting of spar, gossan, and good branches of lead ore, and presenting every appearance of a speedy improvement. The same vein in the winze, sinking under the 30, is 6 ft. wide, and worth 10 tons of lead ore per fathom, but the water is getting very troublesome, and we shall require the lift of pumps at once, and I am waiting your instructions to have them made. All other points are without change to notice. Dressing and smelting are proceeding well. We have 30 tons of pig lead smelted, which I shall sell to-day.

PENHALLS.—S. Bennetts, P. Vian, Feb. 8: The north part of the lode in the 70 east end is worth about 6l. per fathom, and its bearing being a little more southerly, we think it will soon form a junction with the south part, and again produce good tin ground. The lode in the winze below the 60 is worth from 7l. to 8l. per fathom. The various other points of operations remain without much change.

PENSTRUTHAL.—W. Polkinghorne, Feb. 12: I am pleased to say the 34 end driving east is improving as we are extending the level. The lode is 2½ ft. wide, with a good leader of tin. If the lode continues as at present it will open up a valuable piece of tin ground. The tributers are working well, and we shall endeavour to get all the tin we possibly can.

ROMAN GRAVELS.—A. Waters, Feb. 13: The new south engine shaft is now down 7 fms. 4 ft. 6 in. below the 110. The lode in the 110, north of shaft, is worth 2 tons of lead ore per fathom. The lode in the 110, south of shaft, is 1½ ft. wide, and not to value. The 95, south of shaft, is worth 2 tons per fathom. The stope in the back of this level, north of Titley's winze, is worth 2¼ tons. The stope in the back of the 95 north is worth 1½ ton. The stope in back of the 95, south of No. 1 winze, is worth 1 ton. The stope in the back of the 95, south of Jack's winze, is worth 1 ton per fathem. No. 2 stope, in back of ditto, south of said winze, is worth 2 tons per fathom. The stope in the back of the 95, north of Jack's winze, is worth 1¼ ton per fathom. The lode in the 80, south of shaft, is worth ⅓ ton per fathom. No. 1 stope, in back of the 80, south of Wilkes' winze, is worth 4½ tons per fathom. No. 2 stope, in back of the 80, south of Wilkes' winze, is worth 4 tons per fathom. No. 3 stope, in the back of the 80, south of Wilkes' winze, is worth 1½ ton per fathom. No. 1 stope, in back of the 80, north of Wilkes' winze, is worth 1 ton per fathom. No. 1 stope, in back of the 80, south of Matthews's winze, is worth 1 ton per fathom. No. 2 stope, in back of the 80, south of Matthews's winze, is worth 1¼ ton per fathom. No. 1 stope, in back of the 80, north of Powell's winze, is worth 3 tons per fathom. The 65, south of Stokes's, south of shaft, is worth 2½ tons per fathom. The winze sinking below this level, south of Stokes's, is worth for the width of the lode carried 2 tons per fathom. No. 1 stope, in back of the 65, south of Stokes's, is worth 2 tons per fathom. No. 2 stope, in back of the 65, south of Stokes's, is worth 2 tons per fathom. No. 3 stope, in back of the 63, south of Stokes's, is worth 1½ ton per fathom. No. 4 stope, in the back of the 65, south of Stokes's, is worth 2 tons per fathom. The 40, south of old winze, south of shaft, is worth ¾ ton per fathom, and improving. No. 1 stope, in back of the 50, south of old winze, is worth 1 ton per fathom. No. 2 stope, in back of the 50, south of old winze, is worth 2 tons per fathom. No. 1 stope, in the back of the 80, south of Glover's winze, on east lode, is worth 2¼ tons per fathom.

ROOKHOPE.—Thomas Davidson, Feb. 13: In the open ground in the adit level we have had a breakdown, and in consequence have it to timber through. In the 15 level, on south side of vein, I have put another cross-cut through No. 3 on section, east of Low shaft, and are now in a position to drive east and west, and also have four men stoping; each place value from 8 to 10 cwts. per fathom. I am contemplating putting a winze down in this ground a few fathoms, as we have had the best ore in the bottom part of this driving. Driving east over the 25 below the above, in No. 4 on section, east of Low shaft, we met with very nice ore yesterday, value 1 ton per fathom. Stoping 4 fms. below the 25, on No. 2 and 3 on section, east of Low shaft, value from 8 to 10 cwts. per fathom. Driving east from old winze, in No. 7 on section, east of Low shaft, and 5 fms. below the 25, kindly looking vein and mineral, with a little ore, but not enough to value. Stoping west from winze, in No. 7 on section, east of Gin shaft, vein very hard, value 8 cwts. per fathom.—Stoping over the 42, at the bottom of Low shaft, on south side of vein: We have a splendid mineralised vein here, and I look upon this as one of the most important places in the mine. The south part of the vein is entirely whole to West Rounder end, and a considerable distance eastward as well; then by cross-cutting into the north vein. The same may be worked east and west. The value of present stoping is 8 cwts. per fathom.

SOUTH CAMBRIAN.—A. Williams, A. Francis, Feb. 12: We have lately by stripping down the north side of the deep adit level preparatory to laying down the railway come in contact with the lode, which I am pleased to say is producing some splendid stuff for blende, and is at this point equally as good, if not better, than in any part of the mine. We are now making a rapid progress with this work, and in about a fortnight from this date the job will be completed.

SOUTH CONDURROW.—Wm. Rich, W. Williams, H. Abraham, Feb 11: We have resumed operations in the 93. The lode in the rise east is worth 18l. per fm. The rise in the 93 west is worth 10l. per fathom. The 80 end east has a kindly appearance, and yields stones of tin. The 70 end east is worth 5l. per fathom, and looks likely to improve. The 70 end west is worth 8l. per fathom. The lode in the Plantation shaft sinking below the 70 is worth 10l. per fathom. The rise in the 60 east is unproductive at present. The lode in the back of the 50 east is worth 10l. per fathom. In the 50, west of the Plantation shaft, we have not yet fully cut through the lode. There are two rises in the back of the 50, east of Plantation shaft, worth 18l. and 25l. per fathom respectively. The 40, east and west of engine-shaft, are without material alteration. The 30 end east is worth 8l. per fathom. The rise in the back of this level is worth 10l. per fathom.

SOUTH DARREN.—H. James, Feb. 13: We have now plenty of water for all purposes. The drawing is being pushed on with all possible speed to clear the 100 and 90, which will soon be done, so that the men can resume their bargains. The 80 end is worth 22l. per fathom, and the stope in back of the level 20l. per fathom. The dressing is being carried on with all vigour, and we shall sample on Saturday 40 tons silver-lead ore for sale on Friday, the 21st inst. Next week we shall sample from 40 to 50 tons copper ore.

SOUTH MOLTON CONSOLS.—T. Harris, T. May, Feb. 8: The ground in the adit cross-cut is stiffer than it has been during the past three weeks, and is being in stiff, dark killas, but we are hoping it will soon change again for the better, and we have to-day set the drivage, by six men, at 5l. 15s. per fathom the month, or cut the lode, the men to work all the time except on Sundays. The men have made good progress during the past month, having driven 3 fms., and from our calculation we have from 4 to 5 fms. further to drive to reach the line of the lode as laid down on the plan of the mine, and which point we hope to reach by our next setting day.

SOUTH ROMAN GRAVELS.—John W. Powning, Feb. 13: Sawpit Vein: I have started the vein to drive south from the winze in the 15, and shall prove the width and character of the lode as we advance. Nice stones of ore are being met with in the portion already seen. We shall lay open the lode as fast as possible for the meeting.

SOUTH TOLCARNE.—Wm. Rich, James Knotwell, Feb. 11: The lode in the 38 east is about 2 ft. wide, very easy for driving, and yields at times good stones of copper. The end at present is being extended at the rate of about 3 fathoms per week.

TANKERVILLE.—Arthur Waters, Feb. 13: Watson's engine-shaft, to sink below the 206, by nine men, at 2l. per fathom. The 206, west of shaft, to drive, by six men, at 11l. per fathom; lode 4 ft. wide, yielding stones of lead ore. The same level east of shaft, to drive, by six men, at 11l. per fathom; lode 4 to 5 ft. wide, worth 3½ tons lead ore per fathom. The stope in the back of the 206 west, by four men, at 5l. 10s. per fathom; worth 1 ton per fathom. Six stopes in the back of the 206 east, by four men each, at 5l. 10s. per fathom; worth together 9 tons per fathom. One stope in the back of ditto, by two men, at 5l. per fm.; worth 3 tons per fathom. The winze in the bottom of the 192 west, by four men, at 6l. 10s. per fathom; yielding stones of lead ore. The stope in the back of the 192 west, by two men, at 5l. 10s. per fathom; worth 1 ton per fathom. The 182, east of shaft, to drive, by two men, at 10l. 10s. per fathom; lode yielding stones of lead ore. A stope in the bottom of the 146 west, by two men, at 4l. per fm.; worth ¾ ton per fathom. A stope in the bottom of the 82 east, by four men, at 5l. per fathom; worth 1 ton per fathom. A tribute pitch in the back of the 182 east, by four men, at 4l. per ton. A tribute pitch in the back of the 167 west, by two men, a 5l. per ton. A tribute pitch in the back of the 130 west, by three men, at 5l. 10s. per ton. A tribute pitch in the back of the 120 west, by two men, at 5l. per ton. A tribute pitch in the back of the 120 west (on side lode), by two men, at 5l. per ton. A tribute pitch in the back of the 100 west, by two men, at 5l. 10s. per ton. A tribute pitch in the back of the 92 west, by two men, at 5l. 10s. per ton. A tribute pitch in the back of the 92 east, by two men, at 5l. per ton. A tribute pitch in the back of the 82 west, by two men, at 5l. 5s. per ton. A tribute pitch in the bottom of the 74 east, by two men, at 5l. 10s. per ton. A tribute pitch in the back of the 74 east, by two men, at 4l. 15s. per ton. A tribute pitch in the back of the 74 east, by three men, at 5l. per ton. A tribute pitch in the bottom of the 63 west (on No. 2 lode) by two men, at 5l. 5s. per ton. A tribute pitch in the back of the 42 east, by two men, at 5l. per ton.

TAN-YR-ALLT.—John Davis, Feb. 13: The frost having at last gone, we have been able to dress, and to day forwarded one truck—7½ tons—to Messrs. Neville, Druce, and Co. Owing to the stoppage of the wheel from frost, the bottom level has been under water, but we hope to be in fork by the end of the week, when we shall be able to draw the lead broken by the men in the No. 2 stope. I had put the men who had been driving in the bottom level to drive the end in the 12, and I am pleased to say the end has improved, and there is now a very promising leader of lead in the forebreast, worth about 10 cwts. to the fathom, with every appearance of improvement; set to four men, at 70s. per fathom. As soon as the water is out we intend to commence a winze in the lead seen going down in the bottom.

TEMPLE.—Feb. 12: The lode not having been taken down in either level this week there is no change in value or produce to be reported. In No. 1 level, however, there is a change in the ground by the side of the lode, which is now harder, and, comparing its effect upon the lode in the upper levels, more favourable for the produce of lead. At surface we intend to resume operations, as the weather, although still cold and very wet, is now more favourable thad during the late severe frosts.

TYN-Y-FRON.—E. Jones, Feb. 11: We are continuing the adit cross-cut south-east, but have not yet reached the lode. The water still comes out of the end as it did when I wrote you last; there is also more carbonate of lime than there has been at any time since we began this cross cut. We have every reason from indications to find the lode productive.

VAUGHAN.—Feb. 12: In the deep level east the part of the lode carried is composed of decomposed clay slate and branches of carbonate of lime, unproductive for lead ore. It the 30, west of cross-cut, the lode is hard for exploring, and again improving; now yielding 1 ton of lead ore per fathom. In the winze sinking under the 30 east the part of the lode carried looks more promising, yielding 12 cwts. of lead ore per fathom. The machinery is in good order, and drawing of orestuff resumed, and hope to commence dressing the same early next week.

WEST TANKERVILLE.—Arthur Waters, Feb. 13: The 86 to drive south of shaft, by four men, at 8l. per fathom; wide lode, worth ¾ ton lead ore per fm. Nos. 1, 2, and 3 tribute pitches in bottom of the 75 south, four men in each, at 4l. 10s., 4l. 10s., and 5l. per ton respectively. Two in bottom of the 63 south, by two and four men, at 5l. and 4l. 15s. respectively. One in the 50 south, by four men, at 4l. 10s. Nos. 1 and 2 in the 20 south, two men in each, at 5l. 10s. and 5l. respectively. One in the 20 north, by two men, at 5l. One in the 20 south, by four men, at 5l.

WEST VOR.—S. Harris, Feb. 13: During the past week we have driven the adit level east of cross cut, on south lode, 3 ft.; I see no material change in the size or character of the lode—still very strong, with mundic. I took samples of it as usual, but I had not time to assay them before post; I shall do so this afternoon, and should find them more productive. I will inform you of it.

WEST WHEAL TOLGUS.—Feb. 12: We are pleased to say that Taylor's shaft was drained to the bottom on Sunday night, so that all the men in this part of the mine resumed their work on Monday morning. Taylor's shaft men are now busily engaged in cutting plat at the 155, and driving the level at the same time in a south westerly direction, to intersect the lode as speedily as possible. The ground continues to be very hard; but as the plat is almost completed, we shall make better progress in driving the level. The part of the lode carrying on the 145, east of No 1 cross-cut, is 4 ft. wide, and worth about 1 ton of ore per fathom. There is still a part of the lode standing on the north side that we purpose taking down soon to ascertain its value. The lode in the rise in the back of the 145, west of shaft, against the No. 4 winze, is 4 ft. wide, and worth 2½ tons of ore per fathom. We have about 9 ft. more to rise to communicate with the winze, which will improve the ventilation, so that we shall soon be able to resume the driving of the 145 west. The lode in the 135, west of shaft, is 2 ft. wide, and is worth 2 tons of ore per fathom. There has been very little doing in the stopes since last reported, and consequently there is no alteration in their value. In Richards' shaft the lode in the 65, west of shaft, is 2 ft. wide, but unproductive. The lode in the 95, west of shaft, is 3 ft. wide, and looking a little better; now worth 1 ton of ore per fathom. We do not anticipate doing much in the 105 cross-cut, south of shaft, until the water is a little easier. We are very glad to have the mine in fork again, but as the water has been in for the past three weeks above the back of the 135, which has covered all the best of the ore ground, this will very seriously diminish our next sampling, which will probably be only about 150 tons.

WHEAL CREBOR.—John Andrews, Feb. 11: The lode in the 120 east is 4 ft. wide, worth 8l. per fathom. The lode in No. 1 stope in back of the 120 is 5 feet wide, worth 12l. per fathom. The lode in No. 2 stope in back of the same level is 3½ ft. wide, worth 8l. per fathom. The lode in the 108 east is 7 ft. wide, worth 15l. per fathom—a fine looking lode. All other points are without change.

WHEAL GRENVILLE.—T. Hodge, Feb. 12: The old lode in the bottom of Goold's shaft is opening out to a great wide hard lode, producing some good stones of tin. The value of the flat lode is not known. The lode in the 150 east is worth 5l. per fathom. The lode in the winze going down in the bottom of the 140 east, at a point about 15 fms. in advance of the 150 end, is worth 9l. per fathom. The 140 east end is worth 9l. per fathom. No other change in the bargains. We are waiting for the feed-pipes to connect the boiler at Goold's.

WHEAL RUSSELL.—John Bray, Feb. 13: The lode in the 25 and in the rise above the 25 is looking very promising; from 1 to 2 ft. wide, thickly spotted with copper ore. From the appearance we may expect an improvement shortly.

WHEAL UNY.—William Rich, Matthew Rogers, Feb. 8: The lode in the 172 end, west of Hind's shaft, carries stones of tin. The rise in the back of the 16 west is worth 8l. per fathom. The 160, east of Goodinge's shaft, is unproductive: the ground, however, is easy for driving. The 150, west of incline shaft, carries stones of tin. The 130 end west is without alteration to notice. The lode in the back of the 60 west is worth 10l. per fathom.

YNYS.—P. Williams, Feb. 13: Should the weather continue mild we shall commence cutting the leats to bring the water to work the small wheel for pumping at the new discovery, and resume sinking. We also intend driving the cross-cut already started in the adit to cut the parallel east and west lode standing south of the old workings.

THE GENERAL MARKETS.—There is not much to report during the past week. The settlement, which was concluded yesterday, passed off satisfactorily. English railways, after being in strong demand in the early part of the week, are, with a few exceptions, dull; the traffic returns were nearly all unfavourable. London and North-Western showed a heavy decrease compared with the corresponding week of last year, but this is attributable to some extent to the strike in Liverpool. The supply of stock of several railways was not very plentiful at the settlement. When quoted ex div. I think the price of many of our railway ordinary stocks look very cheap. In foreign stock Peruvian have attracted some attention; it is to be hoped that the movements now on foot will at last result in some good to the unfortunate bondholders. Turkish stocks are rather dull; it does not appear that this last financial scheme is likely to be carried out. Egyptians have been rather firmer for the last day or two, but are not much in favour with the public just now. There is no change in the Bank rate this week. Consols are firm. Yesterday's Bank return was very favourable. Mines are getting into favour, and a rise may be looked for in several. Wheal Peevor have risen to 7½; Herodsfoot, 3½ to 4; Parys Mountain, ⅜ to ½; Aberllyn, 10 to 11; D'Eresby Mountain, 30 to 40; Clementina, 1 to 1½. South Frances, 6½ to 7; the dividend here will most likely be 10s. Don Pedro shares have been weaker.—W. H. H.

WATSON: 1, *St. Michael's-alley, Cornhill, E.C., Feb.* 14.

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,
MINEOWNERS, STOCK AND SHARE DEALERS, &c.
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

Ten years ago the weekly information which had previously been published for a great number of years in WATSON BROTHERS' Mining Circular was transferred to the columns of the *Mining Journal*, with the following announcement; which is now reproduced in consequence of the numerous letters and enquiries handed to them of late in reply to one which appeared in the Journal on the Clementina Mine.

In the year 1843, when mining was almost unknown to the general public attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with Statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring the success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and sharedealing than there is at present: and from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services and advice to all connected with mines and mining.

Messrs. WATSON BROTHERS are daily asked their opinion of particular mines, as well as to *recommend* mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

The great extension of mining business, the difficulty so often complained of by country shareholders in getting accurate and disinterested information as to the state of Cornish and Foreign Mines, and of the financial and real position of mining companies generally, have induced Messrs. WATSON BROTHERS to make their Circular now published in the *Mining Journal* more extensively known, and to state—

That they issue daily to clients and others who apply for it a Price List (as supplied to most of the London and country papers), giving the closing prices of Mining Shares up to Four o'clock.

They also buy and sell shares for immediate cash or for the usual fornightly settlement in all Mines dealt in on the Mining and Stock Exchanges, at the close market prices of the day, free of all charges for commission. They deal also, on the same terms, in the Public Funds, Railways, Telegraphs, and all other Securities dealt in upon the Stock Exchange.

Having agents in all the mining districts, they are constantly getting mines inspected for their own guidance, and will also obtain special reports of any particular mine for their clients, for the inspecting agent's fee of £2 2s.

D'ERESBY MOUNTAIN AND D'ERESBY CONSOLS.—The great Gorse lode in the former is 30 to 40 ft. wide, composed of white spar, interspersed throughout with ribs of lead, and in places rocks of lead of several hundredweights each have been broken at a time. The average quality of the lode stuff, however, we have put at about 5 per cent. The red, or Fuchsias lode, from which so much lead was obtained at No. 2 and No. 3 levels, is a smaller and more compact lode, yielding nearly solid lead. About the winze from No. 2, we understand 150 tons of ore were raised, and it is under this deposit that we are opening out good lead ground at No. 3. No. 1 level is near the top of the mountain, a long way ahead of No. 2 and No. 3, and the lode is composed of rich gossan, blende, and stones of almost solid lead. By many agents this lode is preferred to the Gorse, and is no doubt a remarkably fine one, and running through the centre of the D'Eresby Consols sett. The No. 1 level at the Mountain is being driven towards the boundary of the two setts, and is proving the lode for Consols without any expense to the latter company, which is at present confining its operations to driving the deep adit to get under the Cobblers' lode, which yielded great returns of lead, so far as they could be reached without machinery. Where the No. 1 adit at D'Eresby Mountain has been extended to the boundary a shaft can be sunk on the lode to that depth at D'Eresby Consols, and quickly open out the mine.

CLEMENTINA.—The shaft, now down to the 35, has been sunk on a north and south lode near the junction of an east and west lode. The adit from which ore is now being raised is in the east and west lode, and not far from the junction.

ABERLLYN.—Lead appears to be coming in at the No. 2 level.

PARYS MOUNTAIN shares have risen cent. per cent. since the directors' report, and large buying orders have been on the market. The reconstruction scheme is generally approved, there will be no difficulty in raising the necessary capital, and the new shares, instead of sticking at a few shillings in the market, may go to a high price.

We have never ourselves doubted the success of the 90 cross-cut

south, but more light has been thrown upon it by Capt. Mitchell's inspection of the Mona Mine, about a week ago, than was ever known before, and there appears now to be little or no speculation in it if the money is found to carry it on. This open-cast is 300 fms. long, and yielded upwards of five millions profit. Two hundred fathoms of its length on the great course of ore belongs to the Parys Company, and about 100 fms. to the Mona Mine, which is worked by private parties, and four years ago they also commenced a long cross-cut south, which took them three years to accomplish. Twelve months ago they reached the ore, have already sold some thousands of tons from it, and are selling 150 to 200 tons per month, with large reserves. The parallel cross-cut at the 90, at Parys, has also taken three years, and is now within 15 fms. of the same course of ore, and under its richest part above. To accomplish the work will take about six months.

HERODSFOOT.—The agent expects to dress up 8 to 10 tons of lead ore for the first week.

MR. WILLIAM H. H. WATSON having had some years' experience in Practical Engineering and Mining in Cornwall, as well as two years' practice in the London Stock and Share Markets, begs to offer his advice and services to Shareholders and Intending Investors in Mines, and in the Purchase and Sale of Shares.

W. H. H. W. has Special Business in Herodsfoot, Parys Mountain, Wheal Crebor, South Frances, Clementina, Aberllyn, &c., at the lowest net market prices.

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The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, FEB. 14, 1879.

IRON.	£	s.	d.	£	s.	d.
Pig, GMB, f.o.b., Clyde..	2	2	9-	—		
,, Scotch, all No. 1 ...	2	4	0-	3	5	0
Bars, Welsh, f.o.b. Wales	4	15	0-	5	0	0
,, ,, in London.	5	2	6-	5	7	6
,, Stafford., ,, .	6	5	0-	7	0	0
,, in Tyne or Tees ...	5	5	0-	5	10	0
,, Swedish, London ..	8	15	0-	9	0	0
Rails, Welsh, at works..	4	15	0-	—		
Sheets, Staff., in London	7	15	0-	8	5	0
Plates, ship., in London	6	12	6-	—		
Hoops, Staff.	6	15	0-	7	5	0
Nail rods, Staff. in Lon.	5	15	0-	6	10	0
STEEL.						
English, spring 13	10	0-	19	0	0	
,, cast 30	0	0-	40	0	0	
Swedish, keg.....14	0	0-	—			
,, fag. ham. 15	0	0-	—			
LEAD.						
English, pig, common...13	5	0-	—			
,, ,, L.B.....13	12	6-	—			
,, ,, W.B. 14	0	0-	—			
,, sheet and bar..14	5	0-	—			
,, pipe 14	15	0-	—			
,, red 15	15	0-	—			
,, white 23	15	0-	—			
,, patent shot ...17	10	0-	—			
Spanish 13	0	0-	—			
NICKEL.						
Metal, per cwt. 18	0	0-	20	0	0	
Ore, 10 per cent. per ton.24	0	0-	26	0	0	
QUICKSILVER.						
Flasks of 75 lbs., ware..	6	5	0-	—		
SPELTER.						
Silesian..... ..	16	0	0-	—		
English, Swansea	16	5	0-	—		
Sheet zinc	20	10	0-	—		

TIN.	£	s.	d.	£	s.	d.
English, ingot, f.o.b...	62	10	0-	—		
,, bars ,, ...	63	10	0-	—		
Australian	59	5	0-	59	10	0
Banca ..... (nom.)	62	0	0-	—		
Straits	59	5	0-	59	10	0
COPPER.						
Tough cake and ingot.	60	10	0-	62	0	0
Best selected	62	10	0-	—		
Sheets and sheathing.	65	0	0-	66	0	0
Flat Bottoms	68	0	0-	69	0	0
Wallaroo	64	10	0-	65	0	0
Burra, or P.C.O.	64	0	0-	—		
Other brands	61	0	0-	62	0	0
Chili bars, g.o.b.....	55	10	0-	—		
PHOSPHOR BRONZE.						
Bearing metal	£105	0	0			
Other alloys	£110	0	0-	125	0	0
BRASS.						
Wire	7	d.-	7½d.			
Tubes.....	7¾	-	7½			
Sheets	8	-	8¼			
Yel. met. sheath. & sheets.	5½	-	—			
Nails composition.....	7¾	-	—			

TIN-PLATES.*	per box.					
Charcoal, 1st quality ...	1	1	6-	1	2	0
,, 2nd quality ...	1	0	0-	1	1	0
Coke, 1st quality	0	17	6-	0	18	6
,, 2nd quality	0	16	0-	0	17	0
Black .....per ton	16	0	0-	16	10	0
Canada, Staff. or Gla., at Liverpool	11	0	0-	12	0	0
Black Taggers, 450 of 14 × 10	30	0	0-	—		

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—During the past week but few variations have taken place in our markets, and quotations continue as formerly—low and unfavourable to sellers. How much longer the markets will remain in their present unattractive condition, and without affording adequate returns for the amount of business transacted, it is difficult to imagine, but judging from appearances there is some indication that the time cannot be far distant when an improvement will take place. The one great point to be gained first is the re-establishment of confidence among buyers, and as some little time has now elapsed since the great break up of fraudulent firms, and people have had time and opportunity to re-arrange their affairs and to construct the future management of their business upon more economical terms, there will probably be less difficulty experienced, and consequently the uneasiness which has hitherto existed will subside, and although cheap prices are an evidence of bad trade, yet it will, indeed, be extraordinary if they do not shortly act as a stimulus to consumption and a check to production. This effect has always been produced in past years, and, therefore, what has happened before will in all probability happen again. The cheap prices will ruin or cripple many producers, and teach others to keep within the requirements of the times, and not to perpetuate excessive supplies, but to regulate them with moderation.

During the last few years producers have been very much to blame for keeping up such large supplies when it was so palpable to everyone that our markets were overloaded, and that less supplies were needed on account of the diminished demand. The reduced prices which are now current being due in great measure to the action of sellers, and they have brought unnecessary losses upon themselves for not acting with more discretion, and they are not deserving of much pity; for in their eagerness to transact business they have in many instances at times attempted to place themselves in direct communication with consumers, and thereby deprive the middle-men of their living; and those who have been trying to force trade by any such ungenerous means have in the long run been the greater losers; for having forfeited the good opinion of others, they find themselves deserted at the most trying period of depression. Commercial men should be actuated by one feeling and governed by one principle only—that of "Live and let live," and should rather encourage than discourage people to take an interest in their respective branches of trade. If sellers wish to realise better prices than they are now doing their attention must be particularly directed to the reduction of stocks, for until there is a sensible reduction in them there is no hope for the markets. The way to obtain this is easy and patent to all who give the matter the slightest consideration, as the absence or falling off in the demand necessitates a diminution in supplies, and importers should be peremptory in their requests to their foreign correspondents to temporarily reduce their consignments, or else the depreciation will be so considerable, and the accumulations of stock so disproportionate to the demand, that it may take many years to relieve the markets and to realise enhanced rates.

COPPER.—The copper market remains in a very unattractive condition, not so much, perhaps, on account of the paucity of business, which, however, is still limited, but owing to the contiouous increase in stocks and the heavy supplies, which prevent any relief being obtained for the market, and it is pretty certain that until some kind of check is given to the enormous supplies there will be little or no recovery in prices. The present depression in trade ought to convince producers of the absolute necessity of considerably reducing supplies for a time, as that appears to be the only means whereby anything approaching a reasonable value can be realised for their produce; nevertheless, if they will blindly persist in continuing to overload the market in the same manner as they have hitherto been doing, further depreciation will be the result, and sundry failures must inevitably follow. Suppliers have in a great measure to blame themselves for bringing prices down to the present ridiculously low level, and they are now principally suffering from the effects of their own folly. Experience may be bought too dearly, as they will probably find out to be the case in the end, for ruinous losses will succeed serious losses, and after all they will be compelled to cut down supplies within moderate limits, but that course, which will ultimately have to be adopted, would be better done at once than deferred to a later period, for there cannot possibly be any object served in adding loss to loss, and in contributing to augment the difficulties and depression of the market. As soon as suppliers come to their right senses and unitedly determine to put into practice the necessary check upon production, there will be some hope of amendment, as that would afford some chance for old stocks to be worked off, and when consumers begin to see that a good impression has been made upon existing stocks they will gradually gain confidence and be prepared to pay higher prices.

No trade has ever been conducted successfully when producers have disregarded the question of demand. The supply must be regulated by the demand, and if suppliers imagine that they can inundate a market to their own advantage they are most grievously mistaken. Granted it may answer for a time, a very short time however, for the gain which they make at first will most assuredly be lost in the end. Of course we are alluding to regular suppliers and importers, as their interests are more permanently affected by supplies. And unless some immediate change is made 10s. 7d. per unit for even Cape ores may become a fabulously high price, but such are the prospects of mining and other copper companies who force on the market for sale more than is wanted. The demand at the moment is clearly unequal to the absorption of stocks, and as they weigh so heavily upon the market the incubus will have to be sooner or later removed. The momentus question, therefore, is, How can the markets be lightened? The demand being unequal to the task there is no alternative but to reduce supplies. In fact, the remedy for the evil of unremunerative prices mainly rests with suppliers, and the sacrifices now being submitted to are self imposed, and quite unnecessary with proper management, but we look around our market in vain for an unerring steeraman, or for an able and competent successor to the Grand Michael of Cornish renown, and never again is it thought that the trade will be so efficiently and perfectly organised, and remain under such complete control, as in the days of that wise, accomplished, and successful chief.

IRON.—The iron market keeps sluggish, and without any improvement whatever. Orders for all descriptions are particularly scarce, and there are no signs to justify any expectations of their increasing in numbers for some long time to come, but rather the reverse. The keen competition of other countries at present seems more than our ironmasters can stand against, and as long as this continues to be the case English sellers are likely to have but few contracts on hand. It is a most discouraging sign to see our iron trade, which was once the pride of the nation, carried away by other countries with so little effort put forth on the part of home producers to retain it. Seeing the great losses that are being incurred, it is extremely foolish of the men not to act more in conformity with the times, and cease making such stubborn resistance against lower wages, especially as by their doing so they are bringing such heavy distress and suffering upon themselves. Although, however, there may perhaps be some slight excuse for the men, owing to their ignorance from want of education, yet for their leaders and those whom they look up to for advice and guidance there is far less excuse, and it is difficult to understand why they continue to give such advice when the present depression is only showing too plainly the utter fallacy of it. The various returns from the several producing parts show very little change to what they have been doing for some time past, but, as usual, they continue to show the great depression which exists throughout the country. Great quietness is reported to rule the markets at Middlesborough, and, rather than otherwise, prices show great weakness, and makers of pig-iron are said to be more disposed to accept lower rates. No. 3 is quoted at about 33s., and No. 4 forge at 32s. 6d. net. At this port it is said that there is no disposition whatever on the part of consumers to purchase iron, and there is no improvement in the deliveries, except perhaps those for the Continent, which, although still stated as being bad, have rallied somewhat, and show some symptoms of an increase. The manufactured trade is reported as being very dull, and a decided slackness for all descriptions is observed, nevertheless it is thought that most of the mills are receiving more regular employment than what they were last month. Ship-plates are quoted at about 5*l*. 7s. 6d., and angles are procurable at 5s. per ton under this price, and ordinory bars, which are in very little demand, are sold at 4*l*. 15s. to 5*l*. per ton.

There is but a very limited amount of business reported to have taken place at Leeds, and prices have shown but slight variations. The demand is so small and sales so few that they are quite insufficient to keep the mills in employment for anything like the time it is wished for, and buyers seem positively determined not to purchase beyond their most pressing requirements; and, although they do not appear to believe that any further reduction will take place in quotations, yet there is the possibility of it; and, as they are confident that no increase can occur, they see no necessity for buying for forward delivery. There is little to be reported from Wales, the trade in this producing part of the kingdom showing very little change. It is said that the Aberdare and Plymouth colliers have returned to their work, agreeing to accept the reduction of wages of 10 per cent. They are stated to have refused work at first at this reduction demanded by the masters, but after a few days of idleness they, finding what the distress and poverty was they were bringing upon themselves, agreed to return to their employment, and accept what masters could afford to pay them.

The warrant market at Glasgow remains quiet, and a very limited amount of business is reported to have been done betwixt 42s. 5d. and 42s. 7d. for cash. On Tuesday buyers were found at 1d. above the latter price, and sellers were asking 42s. 9d., and since which time the variations have been very trifling, the present price being 42s. 9d. per ton.

SHIPMENTS.

For the week ending Feb. 8, 1879	Tons	6,139
For the week ending Feb. 9, 1878		5,637
Increase.....		502
Total increase for 1879		3,920
Imports of Middlesborough pig-iron into Grangemouth:—		
For the week ending Feb. 8, 1879	Tons	7,094
For the week ending Feb. 9, 1878		4,740
Increase		2,356
Total decrease for 1879		6,367

FURNACES.

In blast Feb. 9, 1878	88
In blast Feb. 8, 1879	87

TIN.—There has been a very limited amount of business transacted in this metal during the past week, and prices have remained nearly stationary. What few sales have taken place for foreign have been effected chiefly from 59*l*. 5s. to 59*l*. 10s. cash. There are evidently very few buyers who care to enter upon three months contracts, and at the same time sellers show no anxiety to effect sales so far forward, as the present prices are so very disadvantageous, and many holders cling to the hope that before so long a period has expired that higher quotations may rule in the market again. The amount of business transacted in English like that of foreign continues very small, and ingots are quoted at 62*l*. 10s. free on board London, and bars at 10s. per ton more, but these exceedingly low prices, especially when compared with what has been quoted in former years, does not seem to be sufficient inducement to bring many buyers into the market, but rather the reverse, consumers appear to be so fearful that prices may still further recede that they hold back making their purchases until the last moment, and then they will not purchase beyond sufficient quantities to meet their most pressing requirements in the hope that still lower prices will follow. The recent heavy arrivals of foreign are the cause of the present easiness of the market, and which are in so much excess of the demand that it will undoubtedly cause a considerable increase in stocks to take place.

LEAD.—The depression in the market for this metal continues great, and over supply, the same as in other metals, is exercising a downward tendency in prices. The price for common pig is only 13*l*. 10s., and a marked scarcity of buyers is observable.

SPELTER.—There is very little business doing in this metal, and prices continue low and unprofitable to sellers.

STEEL remains unchanged both as regards price and demand.

QUICKSILVER.—There has been a fair trade, without any change in price.

Messrs. FRY, JAMES, and CO.—COPPER continues to be without life, and prices have fallen in most descriptions some 10s. to 20s. a ton during the last fortnight. The sale of Cape ores on Wednesday realised an average of 10s. 7d. per unit only, which is the lowest price yet recorded. The average produce was 30½ per cent. ——IRON is without change.——TIN has found a small daily demand, which has maintained values at within about 5s. a ton of the beginning of the month.——LEAD has been in full supply, and is again rather lower in value.——SPELTER in quiet demand; but further receded in price.——TIN-PLATES are in better demand, and substantially advanced rates are being paid.

Messrs. BROOKER, DORE, and CO.—BALDWIN'S SHEET-IRON and TIN-PLATES: Best coke and charcoal sheets are in fair request, and for tin-plates the demand is extraordinarily good. It is fortunate that Messrs. E. P. and W. Baldwin have their Wolverhampton works in operation again, as they have secured orders sufficient to keep these and the Wilden works fully employed for some time to come. ——GALVANISED IRON: There has been no improvement yet in demand, and most of the makers are working only half time. A new feature in the trade has been an attempt to establish a monthly sale by auction in London. The Liverpool manufacturer who hazarded this rash experiment is scarcely likely, we should think, to repeat it, as only three or four lots were sold, and those at prices which must leave him a loss.——FENCING WIRE: Fresh lists have been issued by the Warrington houses, but having anticipated the alterations in prices we quote the same as last month. We alter our prices for tinsmiths' wire, quoting for same per cwt. instead of per bundle of 63 lbs. as heretofore.——LEAD has further declined during the month about 20s. per ton.——ZINC: No change.——SPELTER: Quiet market.

Messrs. PIXLEY and ABELL.—GOLD continues to flow into the Bank, there being no demand whatever for export; the amount purchased since our last circular is 186,000*l*., and it is expected that the 664,000*l*. per Poonah, due on the 17th inst. from Australia and India, will also be sent in. On the other hand, 100,000*l*., sovereigns, have been withdrawn to day for the Cape. The arrivals during the week have been 242,090*l*., per Kashgar, from India; 8000*l*., per Helvetius, from River Plate; 2550*l*., per Sorata, from the Pacific; 8500*l*., per Medway, from the West Indies: total, 261,140*l*.——SILVER.—The market has been dull since our last, and prices have declined, in sympathy with lower exchanges from India. There has been but little doing for India, and the orders for the Continent have not been sufficiently active to absorb all the undermentioned arrivals:—The American steamers have brought 11,000*l*. from New York; Sorata, 27,940*l*., from the Pacific; Medway, 26,600*l*., from the West Indies: total, 65,540*l*. The nearest quotation we can give for fine bars is 49⅝d. per oz., at which rate the silver by the Pacific steamer has been sold to-day. The P. and O. steamer takes to-day 10,000*l*. to Bombay.

There has been greater activity in the MINING SHARE MARKET since our last, and a good demand has sprung up for several mines at advanced rates. Those mostly dealt in have been Parys Mountain, Herodsfoot, Wheal Peevor, South Frances, Don Pedro, Wheal Crebor, Great Laxey, Aberllyn, Bettws-y-Coed, and a few others. The settling of the fortnightly account was heavier this week than for some time past.

TIN.—No change has taken place in this metal, and shares in tin mines, with one or two exceptions, continue depressed. Dolcoath, 21 to 23; at the meeting on Monday the accounts showed a profit on three months' working of 197*l*. The tin sold realised 12,441*l*.; arsenic, 68*l*. The costs were 11,697*l*. The debt to the Cornish Bank is 15,165*l*., and the mine had in hands of new bankers, 963*l*. The report states that the 352 east is worth 40*l*. per fathom. The small profit is said to be owing to a breakage of the piston rod of the engine, so that the water was in the bottom of the mine for upwards of six weeks. At Killifreth meeting the accounts showed a balance against the mine of 3780*l*., and a call of 5s. per share was made. The tin sold and in stock was 204*l*. The agent hopes ere long to meet costs. Cook's Kitchen, 15s. to 20s.; Carn Brea, 27 to 29; Tincroft, 7½ to 8¼; South Condurrow, 10¼ to 10¾; Wheal Agar, 4 to 4¼; West Basset, 1¾ to 2; Wheal Grenville, 1½ to 2; East Pool, 8½ to 9. South Frances, 6¾ to 7½; this mine is looking well, and will probably increase its dividend at next meeting. Wheal Peevor have advanced to 7½, 8; here also there will be an increased dividend. West Frances, 1¾ to 2¼.

COPPER MINES have been better, with a good demand for Parys Mountain, Wheal Crebor, and others. Devon Great Consols, 1¼ to 1½; Marke Valley, 5s. to 7s. 6d.; Mellanear, 4 to 4½; West Seton, 6 to 7; West Tolgus, 30 to 32½. Wheal Crebor, 7s. 6d. to 10s. 6d.; the lode in the 120 east is worth 8*l*. per fathom. Stope in back of 120, 12*l*. per fathom. Lode in 108 end east is worth 15*l*. per fathom, and a fine-looking lode. Parys Mountain have advanced to 8s. 6d., 10s. 6d., and have been in great demand. At the meeting the directors' recommendation as to the reconstruction of the company was unanimously adopted and passed, together with the statement of accounts. A resolution was also passed instructing the directors to take measures for carrying out the object in view. A late inspection of the Mona Mine by Capt. Mitchell has thrown great light on the 90 cross-cut south at Parys, and his report gave great satisfaction to the meeting. Morfa Du, ⅞ to 1; at the meeting here the accounts and directors' report were received and adopted. It was stated to the meeting that the actual outlay on the mine had been a little over 1200*l*., and that ores had already been sold and delivered for upwards of 800*l*., and at present rate of returns good dividends might be expected this year. This mine, an offshoot of the Parys Mountain Company, bids fair to be a great success.

LEAD MINES have been fairly in demand, but without much alteration in prices. Roman Gravels, 6 to 6½; the various points in operation have been valued in the aggregate at 50 tons of lead ore per fathom. Tankerville, 2 to 2½; Van, 15½ to 16½; Great Laxey, 14½ to 15½. Herodsfoot, 3½ to 4½; the mine has been specially inspected for a shareholder this week, and the report is of a very favourable character. Between the 190 and 205 fm. levels it is reported there are hundreds of fathoms of good, profitable lead ground, and hundreds of fathoms also in other levels, so that the mine could at once be worked to a profit. Aberllyn, 10 to 11; a branch of lead has been met with in the bottom of the No. 2 end, and the prospects of early success very encouraging. D'Eresby Mountain, 30 to 40; D'Eresby Consols, 6 to 8; Clementina, 1 to 1⅛; Bettws-y-Coed. 1 to 1¼; East Van, 1⅞ to 2; Glenroy, 7s. 6d. to 10s. 6d.; Leadhills, 1½ to 2; Mineral Corporation, 10 to 11; Pateley Bridge, 20s. to 25s.; Rookhope, ⅛ to ⅜; West Chiverton, 2 to 2½; West Pateley, 1¾ to 2¼; Grogwinion, 1½ to 2; Red Rock, 1½ to 2; Caron, 1⅜ to 2¼; Mawston, 1½ to 2; Hartington, 1½ to 2; Frongoch, 2¼ to 2⅜.

FOREIGN MINES.—In these shares there is not much doing. Cape Copper, 28 to 29. Chontales, 7s. 6d. to 10s.; the gold return for December is 840*l*., which shows a profit of 240*l*. Javali, 3s. to 5s.; the return here is 447 ozs., valued at 1200*l*., against a cost of 775*l*. Colorado, 1⅜ to 1½; Don Pedro, 19s. to 21s.; Eberhardt and Aurora, 3½ to 4; Frontino and Bolivia, 2⅜ to 2⅝; New Zealand Kapanga, 7s. 6d. to 12s. 6d.; New Quebrada, 1½ to 2; Panulcillo, 1 to 1¼; Port Phillip, 10s. to 12s. 6d.; Richmond Consolidated, 9⅜ to 9¾; St. John del Rey, 270 to 280; Santa Barbara, 37s. 6d. to 42s. 6d.; Placerville, 2⅛ to 2¼. 2¾.

The Market for Mine Shares on the Stock Exchange has fully maintained the improvement noticed last week, the transactions have been more numerous, and the highly favourable character of Thursday's Bank return has created a satisfactory impression as to the prospect of affairs. It is understood that a rock-drill trial is about to be made in Wales, the result of which will be looked for with interest by miners generally. The executive of the Mineral Corporation of Great Britain have shown a gratifying amount of energy from the time they commenced operations in Carnarvonshire, and this afternoon the London representative of the company started for Wales to arrange the details of a competitive trials of rock-drills to be made at the inventors' risk, previously to introducing machine drilling generally in the more important levels. After careful examination of the various drills in the market, the Schram and the Eclipse have been given the preference. To each of these about a two months' trial will be allowed, and it is intended that this shall be such as to leave no doubt in the matter. Although the exact mode of procedure has not been finally determined upon, it is suggested that the competitors shall each be assigned a level properly cleared and ready for work, each party will work for a fortnight and then exchange levels, which, as both the Schram and the Eclipse drill are fairly portable, can readily be done. Each party will be bound to leave an equally good face for his rival. There will be similar exchange of places at the end of the second and third fortnights, so that at the end of the two months each will have worked one month in each level. Neither can complain of favourable or unfavourable ground or conditions, as they will have been as nearly as practicable similar in each. The work done, cost (including repairs of drill and all other outlay) per fathom, and other particulars, will then be calculated for each drill, and the condition of each at the end of the trial will also be considered; upon the result one or other will be adopted. The Schram drill has already been tried at the Magpie and other mines, and the Eclipse is at present working very successfully at West Basset Mine, near Camborne.

The gold investigations in Wynaad (India) continue to attract attention. Mr. R. Brough Smythe's latest report is dated Devalah, Dec. 5. Referring to an adit near Wright's level, he states that north of and about 30 ft. below the point where the rich auriferous quartz occurs, on sinking about 3 ft. stone has been obtained in which much gold is visible. Quartz from this adit, in which no gold was to be seen, has yielded at the rate of 2 ozs. 18 dwts. 11·5 grs. per ton. The old adits made by the natives in one portion of the cavern reef have been cleared, and gold is to be seen in the casing of the reef (hanging-wall). The yields lately obtained from this reef have been about 12 dwts. to the ton. The reef will be further tested. Near Murada, about 2750 ft. below Devalah, there is a large vein of quartz outcropping in the stream, and there are two reefs parallel to the main reef, the one about 5 chains and the other about 7 chains north-easterly from the stream. The main reef is traceable for more than a mile and a half. A little less than one mile south-west of Eddacurra, more than 2800 ft. below Devalah, there is a strong outcrop of quartz. The stone has yielded a little gold. Not much progress has been made with the survey of this district during the past month; his visit to Eddacurra, the testing of quartz and other urgent work having occupied a great deal of his time. He proposes to visit Charambadi and Vellirymulla next week, in order to gain some knowledge of the rocks and veins in the western part of the district, and on his return he will devote himself wholly to the completion of the map, and the examination of the reefs in this area.

It may interest shareholders in mines producing low-class sulphide ores to learn that a series of interesting experiments have been conducted by Mr. John Hollway with a view to employ the sulphur, iron, &c., as fuel instead of coal, and by a process which may be popularly described as calcining under blast. Success has not yet peen attained, but many consider the results promising. Hitherto much of the so-called sulphur ore has been first treated for the manufacture of sulphuric acid, and the residue, or burnt ore, has been re-treated for the extraction of the other constituent of marketable value. Glasgow, Newcastle, and Liverpool have been the chief centres of this industry, and in the re-treatment probably the best results have been obtained at Widnes. In Germany processes were in use for many years since, notably in Siegerland, for obtaining the greater part of sulphur from pyrites as flowers of sulphur instead of sulphuric acid, and the product was exhibited at the Paris Exhibition of 1867. These processes, coupled with processes for treating the spent ore, have received too little attention. An abstract of Mr. Hollway's paper, read before the Society of Arts, is published in another column.

The electric light mania is rapidly subsiding. The report presented at the Gaslight and Coke Company meeting to-day stated that the subject which at the present time, no doubt, engaged the special attention of the proprietors was that of the electric light. The directors had never looked on it with indifference, but they repeated their assertion that they regarded it without apprehension. The results of the series of experiments which had been conducted at the premises in Westminster for the purpose of determining the relative cost of electric and gas lights had amply justified the directors in the opinion they had always entertained in favour of the latter. In furtherance of this view, the directors had undertaken to demonstrate, at the expense of the company, methods of improved gas-lighting, which they believed would show that any given amount of light could be produced by gas at a cost considerably smaller than that required to maintain the same degree of illumination by means of electricity, should the public demand more light, and the authorities be willing to pay for it. The Chairman, the Hon. Howe Browne, having alluded to various items in the report, proceeded to discuss the electric light as applied to Billingsgate Market, and gave a quotation from the report on it at that place, which showed that it had been a positive failure, both as to cost and certainty.

English and Australian Copper, ⅞ to 1⅛; the directors report, to be read at the meeting on Thursday, states that the total furnace material—ore, regulus, and precipitate—received at Port Adelaide and Newcastle was 16,194⅓ tons in 1877-78, against 13,632⅓ tons in

the preceding year. As to the mines in the Far North, it is stated than the Port Augusta Railway is now in course of construction, and when completed the valuable copper mines in the northern part of South Australia would be reached by railway, and ores could then be brought to Adelaide at a rate which would enable the mines to be worked advantageously. The profit and loss account for the year ending June 30, 1878, shows a balance at the credit of 3625*l.* 18s. 9d., out of which the directors propose to declare a dividend of 1s. per share, payable on March 1, free of income tax. The reserve fund now stands at 9956*l.* 3s. 3d., secured by copper warrants.

St. John del Rey, 265 to 275; the latest telegram from Morro Velho, dated Rio de Janeiro, Feb. 11, states that the produce for January was 32,500 oits., of the value of 12,593*l.*, the ley of the ore being 5·7 oits. per ton. It is explained that the produce is small, owing to much quartz and killas having been quarried during the month. Don Pedro, ⅞ to 1; the produce for January was 2600 oits. Captain Vivian's report, dated Jan. 10, is considered to be very favourable. Chontales, ⅜ to ½; the profit for December was 240*l.* Almada and Tirito, 1s. to 3s.; the telegram from Mr. Clemes states the December profit to have been $1400.

Richmond, 9½ to 10; few companies have had the misfortune to have their shares more unscrupulously manipulated by market speculators than this, the rumour being at one time very widely spread that even the directors themselves were trafficing in the shares, and taking advantage of their facilities for acquiring early information; but bona fide shareholders have now become so far satisfied with the results that the questionable reports circulated one day to depress and another to unduly raise the price of shares have almost ceased to be regarded. It is stated that there are no grounds for the rumour that Mr. Probert had sold his shares, advised his friends to do likewise, and is not going to return to America; but really it would matter little whether such rumours were true or false, as since Mr. Probert's return to this country Mr. Rickard has shown himself thoroughly competent to fill the office of superintendent and manager combined that it might even become a question whether a resident directorship is at all necessary. Within the last few months the shares have been much steadier in price than formerly, the shareholders have received good dividends, which are considered likely to continue, and during that time Mr. Rickard has shown himself in every way competent to manage the property, erect smelting works, and carefully protect the shareholders' interest. The mine is stated to have returned 2,00,000*l.* worth of bullion in all: and, nothstanding Capt. Tonkin's unfavourable report, there seems no ground for anticipating that the yield of the mine will cease to keep pace with the demands of the smelting works. The usual telegram from the mine at Eureka, Nevada, states that the week's run was $55,000, from 1079 tons of ore. During the week the refinery has produced $40,000. The manager's report contains nothing calling for particular notice, but work—exploratory and other—is going on with its usual regularity. While this and the usual returns continue shareholders would do well to leave matters as they are, and not facilitate market operations by dealing to suit the books of either "bulls" or "bears."

Flagstaff, ⅛ to ¼; it is understood there is now no longer question that the whole of the property previously owned by this company is irretrievably lost, but a proposition has been received from the holders of the judgments which may possibly be turned to account by the share and debenture holders. Mr. Pearson is authorised by the sole owners recognised by the American laws to treat with the share and debenture holders, and offer them a new and perfect title upon equitable terms. Should it be determined to adopt this suggestion the course to be pursued will be to hasten a complete winding up and dissolution of the company, and the formation of a new one, which will naturally start under far more favourable auspices. It is understood that upon receiving the authority mentioned Mr. Pearson at once obtained the consent of the petitioners for liquidation to allow the petitions to stand over for a few months to permit of the necessary arrangements to be made. The Court has made an order to that effect.

The Market for Hydraulic and Gold Washing shares exhibits more animation, there being a slight enquiry for some descriptions. The rainfall to date in California has not been quite so much as last year, but the rains continued at date of latest advices, and matters are more cheering.

Lead Mine shares remain much as last reported; a fair amount of business is doing at about the same prices. Van, 16 to 17; there is no alteration reported from the mine. The ends underground are looking the same as mentioned in the monthly report published last week, and surface operations are progressing satisfactorily.

Mineral Corporation of Great Britain, 10 to 11; operations appear to be going on much as usual at the mines. The No. 3 adit end at Hafna has improved during the past few days; the part of the lode they are driving on is 4 ft. wide, worth 2 tons of blende per fathom, and is spotted with lead. The rise in the back of the No. 3 level is looking well, and worth 10 cwts. of lead and 3 tons of blende per fm. At surface the office and reservoir embankments are progressing. The lead in Great D'Eresby, referred to in former reports, still holds on. At Bryn Canadon the lode in the winze that has been cleared up proves to be worth from 10 cwts. to 15 cwts. of lead per fathom.

Rhydalun, 41 to 43; it is reported that the mine is improving. It has been successfully worked by a few capitalists, by whom a limited liability company has just been formed, in shares of 10*l.* each, to further develope the mine. The vendors take all payment for their interest in shares, and the mine is reported to be making a large monthly profit. Pant-y-Mwyn, 3 to 3¼; this mine is considered to be in a promising state, and continues to open out rich, and, providing they have no serious influx of water up the Day level, will probably soon be in a positon to resume dividends.

Subjoined are the closing quotations:—

Assheton, ⅜ to ⅝; Carn Brea, 26 to 28; Devon Consols, 1¼ to 1⅛; Dolcoath, 20 to 22; East Caradon, 1-16th to 3-16ths; East Van, 1⅞ to 2⅛; Glenroy, ⅜ to ⅝; Glyn, ⅜ to ⅝; Gt. Laxey, 15 to 15½; Herodsfoot, 3½ to 4; Leadhills, 1⅛ to 2; Marke Valley, ¼ to ½; Parys Mountain, ¼ to ⅜; Pateley Bridge, ⅞ to 1⅛; Penstruthal, 1-16th to 3-16ths; Roman Gravels, 6 to 6⅛; Rookhope, ⅛ to ⅜; Tankerville, 1¾ to 2¼; Tincroft, 7⅛ to 8⅛; Van, 16 to 16⅛; West Assheton, ⅜ to ⅝; West Basset, 2 to 2⅛; West Chiverton, 1½ to 2½; Wheal Crebor, ⅜ to ⅝; Wheal Grenville, 2 to 2⅛; Almada and Tirito, ⅛ to ¼; Birdseye Creek, ½ to ¾; Blue Tent, 2⅛ to 2¾; Cape Copper, 28 to 29; Chontales, 7-16ths to 9-16ths; Colorado United, 1⅛ to 1¾; Don Pedro, 18s. to 20s.; Eberhardt and Aurora, 3⅛ to 3¾; Emma, ⅛ to ¼; Exchequer, ⅛ to ⅜; Flagstaff, ¼ to ⅜; Frontino and Bolivia, 2¾ to 2⅞; Hultafall, 2 to 3; Javali, 4s. to 6s.; Kapanga, ⅛ to ⅝; Last Chance, ⅜ to ⅝; New Quebrada, 1⅜ to 1⅝; Pestarena, ⅛ to ¼; Placerville, 2⅛ to 2⅜; Plumas Eureka, 2⅝ to 2⅞; Port Phillip, ⅛ to ⅜; Richmond Consolidated, 9¾ to 14; St. John del Rey, 270 to 275; Sierra Buttes, 1⅝ to 1⅞; South Aurora, ⅛ to ¼; United Mexican, 2¾ to 3.

The directors of the Gloucester Wagon Company (Limited), have declared an interim dividend for the half-year ending Dec. 31 at the rate of 4 per cent. per annum.

The directors of the North Central Wagon Company (Limited), recommend payment of a dividend of 10 per cent. per annum to shareholders for the past half-year. They say there is at present no improvement in trade in Great Britain, but symptoms of an improved demand have been shown in the Far West. This company has a capital of nearly 200,000*l.*

The Bristol and South Wales Wagon Company have declared a dividend at the rate of 10 per cent. per annum.

Petitions have been presented to the High Court of Justice for winding-up the St. George's Chemical and Asphalte Company, and the Northfleet Brick Company.

The Master of the Rolls has appointed Mr. F. F. Buffen the provisional liquidator of the Grafenburg House (Barnet) Hydropathic Establishment.

*** THE DIVIDEND MINES OF 1878.—In next week's Journal we shall publish the usual Tabular Particulars of the British Metalliferous Mines worked by Public Companies which have paid Dividends during the year 1878.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: The Tasmanian Tin Fields (J. Pryor); Richmond Mining Company; American Mining—the Colorado Terrible (F. M. F. Cazin); the Nouveau Monde Gold Mining Company (F. Baganelli); Pennsylvania Railroad Mortgage Bonds; The Mineral Wealth of Spain—No. 1 (J. A. Jones); Coating and Protecting Iron; Haulage by Endless Wire Ropes; On the Use of Rock Drills Underground (T. B. Jordan, Son, and Meihe); Hand Rock Drilling Machinery; Bona fide Investments (J. L. M. Fraser); Economic Mining Enterprise; Distress in Cornwall; Is it Right to Pay Purchase Money for Mines (W. Salmon)? Devon Great Consols; Mining in Cardiganshire; Carnarvon Bay Granite Setts Quarry District; Hingston Down Mine—the Scotch Mining Share Market—Meetings of Mwyndy Iron Ore, Fuller's Reef, Dolcoath, United Van Consols and Glyn Lead and Barytes Company, &c.

THE TIN TRADE.—The quantity of tin sold from the following mines during January was 729 tons 2 cwts. 2 qrs.:—Wheal Agar, Wheal Basset, West Basset, Blue Hills, Carn Brea, South Condurrow, Cook's Kitchen, Dolcoath, South Frances, West Frances, Wheal Jane, Wheal Kitty, Wheal Owles, Penhalls, Penstruthal, East Pool, Tincroft, Wheal Uny; tin streams. THOS. B. PROVIS, C.E., Sec.
Mining Institute of Cornwall, Camborne, Feb. 12.

LEAD AND LEAD MINING.—From the latest advices received from the United States this week we are informed that a further important and considerable advance has taken place in the price of lead. There is no doubt that a considerable advance will very quickly take place in the price of English ores and pig lead.

DENBIGHSHIRE CONSOLIDATED.—The expectations raised of the 80 west at the recent meeting have been verified, and a fine course of ore laid open. The prospects in the eastern portion of the sett are bright, and the shares, which are now being enquired for, are likely to rise in price quickly.

PATELEY BRIDGE.—The 30 end east, on Rake vein, is showing signs of improving again. The lode in the winze sinking below this level maintains its value—10 tons to the fathom. The company are selling 30 tons of pig-lead this week.

EAST CRAVEN MOOR MINE.—A great improvement has taken place in this property—in fact, it is a most important discovery. The agent states as follows:—"East Craven Moor Mine, Feb. 13: I have just come up from underground, and we have one of the richest lodes in the 54, east of new shaft, I have seen for many years. It carries a solid leader of galena 15 in. wide, worth fully 4 tons per fathom; and the vein in the 54 west is rapidly improving. We have drawn up to surface to-day from this point above upwards of 4 tons, in large blocks, of solid ore. We have in course of dressing about 20 tons of ore." This has proved one of the richest districts in Yorkshire for lead, and immensely profitable, and there can hardly be a doubt as to the future of this valuable property. Few mines in the country appear to hold out such solid prospects—the facts speak for themselves. Rocks of solid ore weighing ¼ ton. A lode worth 4 tons of ore per fathom. There are some 14 lodes in this property, all lead producing. About 9000*l.* working capital in hand.

HERODSFOOT MINE has just been inspected by Capt. Andrews, of Wheal Crebor, and who gives a most encouraging report of its prospects. Capt. Andrews says that during the past two years operations have been chiefly confined to the 205 south, in which the lode for the last 40 fathoms driving has yielded from ½ to 1 ton of silver-lead per fathom; the lode in the present end is worth 12 cwts. of silver-lead per fathom. There are two stopes in the back of the 205 worth respectively 10 and 15 cwts. of silver-lead per fathom, and more stopes, Capt. Andrews states, can be put to work at once, as there are apparently at the present moment hundreds of fathoms of good profitable lead ground laid open between the 190 and 205; and he is also of opinion that in addition to these there are hundreds of fathoms of ore ground in the different levels. Capt. Andrews advises the immediate sinking of the shaft 15 fms. deeper, so as to make a 220 fm. level.

TAN-YR-ALLT.—A great improvement is reported in the 12 fm. level driving north; this end is now about under the deposit of ore found by the old workers above adit, and above the rich stope in the 22 fm. level, the ground being whole up to the adit (from the 12). Dressing operations have been resumed, and a consignment sent off this week.

LEADHILLS.—This extensive run of mines has much improved, and some good discoveries of lead ores made, producing in several places 2, 3, 4, and 5 tons of lead ore per fathom.

HINGSTON DOWN.—A letter appears in our columns to-day having reference to the stoppage of the engine, and consequently inundating the mine. To outsiders this will seem an extraordinary proceeding, seeing that no meeting of shareholders has been called to take the matter into consideration, and that only two months ago it was determined to make a call to prosecute the workings with vigour. Looking at the produce of stopes in bottom of mine, and the great chances of discovery east and west, it is hard to realise that this fine property is to be really abandoned. The cost of pumping out the water would be a very serious matter, and, at the same time, the risk of losing the pitwork is much to be condemned. The shareholders should most certainly be consulted before taking such severe measures as it appears are to be resorted to.

THE DEEPEST MINE IN AMERICA.—The Belcher Mine has now attained the greatest depth of any mine on the Comstock, or in America. The north incline is now down 44 ft. below the 2560 ft. level, making a total perpendicular depth from surface of 2604 ft. The incline is to be continued to a considerably greater depth, the indications being favourable for the finding of a new ore bonanza in that direction.

STEEL RAILS IN THE UNITED STATES.—Advices from New York state that the New York, Lake Erie, and Western Railroad Company has let contracts for 25,000 tons of steel rails. The contracts have been divided between rolling mills in the States of Pennsylvania and New York. The terms are $40 per ton at the mills.

LIGHTING A COLLIERY BY ELECTRICITY.—A coal mine near Wattenscheid, in Germany, is now lighted by electricity at a cost of about 2¼d. for each light in the hour. The electric light has been tried with satisfactory results in another coal mine in same district.

MINING IN FLINTSHIRE—GWERNYMYNYDD (LIMITED).

This company has been formed for completing the development of a most important mineral estate near the town of Mold, in Flintshire, consisting of the following mining setts:—Gwernymynydd, Cathole, Pilkington, Glan Alun, Deborah, and South Hafod. To effect this object will be required—1. The erection of another pumping plant at the eastern end of the property.—2. The completion of the great draining adit level through its entire extent, which will perfect the drainage.—3. The opening of the valuable mine Gwernymynydd, upon which the plant for pumping is to be erected. At the western end of the sett extensive and powerful pumping machinery was erected in 1869 on the Cathole and Pilkington Mines, which were effectually drained till October, 1871, when an unusual number of floods and an excessive rainfall having continued for nine months, a suspension of the works was rendered necessary, as operations were interrupted in the lower and important levels, though the existing pumping plant was sufficient to keep the mines drained in ordinary weather. The erection of the new plant and the completion of the great adit level will undoubtedly place the mines in a state of permanent security for full development, and according to the best engineering authorities will drain the whole property at all times and in all seasons. The shareholders of the late company failed to make the required subscription to carry out these works, notwithstanding that Cathole and Pilkington Mines were nearly yielding sufficient returns to pay the cost, with a prospect of their being speedily augmented. By means of this adit level rich ground will be laid open, and large returns may be confidently looked for.

It is a most satisfactory feature that the western portion of the property has been proved, with encouraging prospects of future success, as from this part large quantities of rich lead ore were raised during the short period that the Cathole and Pilkington Mines were at work; consequently directly these mines are redrained there are returns which can be calculated upon not only to meet the bulk of the cost, but according to the improving accounts of the main lode to increase quickly for profits. There is, therefore, a greater degree of certainty for a safe investment in this undertaking than in an untried property. There is unquestionably an important main lode proved in the bottom level, with a strong indication of rapid increase in richness, which deserves to be fully developed. Another reason why this property should be well opened up is that the Gwernymynydd Mine possesses a reputation for mineral wealth already. Its past history records richness in the shallow workings, and from its geological formation it promises to give great and continued yields of rich lead ore. The advantages of investing in this enterprise are of a nature to command notice in many respects—1. It is practically tested with a degree of certainty of early profits.—2. The lowness of the royalty, which is only 1-20th.—3. It is in the hands of a practical and reliable directorate. In short, taking into consideration the prospects, with all the advantages of the enterprise, there are very few undertakings of its kind which present such safe security for an improved investment as this promises to be, especially having regard to the experience already gained of its mineral resources.

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AUSTRALIAN TIN—PRIZE MEDAL, 1877.
THE UNDERSIGNED is PREPARED to EXECUTE ORDERS for the CELEBRATED
"KANGAROO" BRAND.
S. L. BENSUSAN.
Kangaroo Tin Works, Sydney, December, 1878.

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TRELEIGH WOOD MINE,
REDRUTH, CORNWALL.
ALL PERSONS having CLAIMS against the TRELEIGH WOOD MINING COMPANY are required to SEND THEM IN FORTHWITH, with all particulars of their CLAIM, to Mr. THOMAS B. LAWS, the Secretary to the Company, St. Andrew's House, 28, Cornhill, London, E.C.
Dated February 5th, 1879.

UNITED MEXICAN MINING COMPANY
(LIMITED).
Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of proprietors will be HELD at the office of this company on THURSDAY, the 27th day of February instant, at One o'clock precisely, for the purpose of considering and passing the following resolution:—
That a call of Two Shillings and Sixpence per share be, and the same is hereby, made on all the shareholders in the company, the same to be payable on the 31st day of March next.
The Transfer-books will be closed on the afternoon of the 17th instant, and reopened on the day succeeding the meeting.
By order of the Board,
W. M. BROWNE, Secretary.
Office: No. 3, Great Winchester-street Buildings, E.C.,
London, 10th February, 1879.

VAN RAILWAY.—
14A, Austinfriars, London, February 12th, 1879.
Notice is hereby given, that the ORDINARY HALF YEARLY GENERAL MEETING of shareholders in this company will be HELD at the offices of the company, 14A, Austinfriars, London, E.C., on THURSDAY, the 27th day of February next, at Two o'clock in the afternoon precisely, to receive the accounts, and to transact the general business of the company.
The Transfer-Books will be closed from the 22nd to the 27th instant, both days inclusive. By order, W. J. LAVINGTON, Secretary.

VIRNENBERG COPPER MINING COMPANY
(LIMITED), RHEINBRIETBACH, GERMANY,
FORMERLY
ST. JOSEPHSBERG COPPER AND LEAD MINING COMPANY (LIMITED).
Notice is hereby given to PERSONS who should feel inclined to PURCHASE SHARES in the Virnenberg Copper Mining Company to TAKE BEFORE INFORMATION upon the company, and as to the position of the company in Sternerhütte, near, Linz, on the Rhine.
VIRNENBERGER GEWERKSCHAFT.
Sternerhütte, near Linz, on the Rhine, February, 1879.

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D. C. DAVIES, F.G.S., &c.,
MINING ENGINEER, OSWESTRY,
Author of "Slate and Slate Quarrying," "Metalliferous Minerals, Mines, and Mining" (now in course of publication),
Respectfully intimates that, accompanied by his son, Mr. E. HENRY DAVIES, he is about shortly to PAY a MINING VISIT to RHENISH GERMANY, and he would be glad to UNDERTAKE the EXAMINATION of MINES, QUARRIES, and MINERAL PROPERTIES for persons interested in the same.
FRENCH AND GERMAN SPOKEN.

Notices to Correspondents.

Director—"E. J." (Liverpool).—We are not aware that the Acts of Parliament explaining the duties, privileges, and responsibilities of directors of limited mining companies have been reviewed by a lawyer or business man. The directors' duties are to protect the interests of the shareholders; you will merely be subject to the ordinary criminal law for any act of dishonesty. The privileges of directors are that they receive fees for attendance, and thus secure a certain percentage of interest upon their investment even before any profits are available for distribution as dividends to the ordinary shareholders. The responsibility of directors arises from the frequent necessity of their putting their names to acceptances to relieve the concerns they are connected with from financial embarrassment and suspension; but for this responsibility they usually take indisputable security, by making their loan a first charge on the property, so that upon reconstitution of the company they occupy the position of vendors and promoters, and thus reimburse themselves with ample interest. From his caution in making the enquiries contained in his letter he would, no doubt, be an eligible and desirable director.

Copper Ore Prices—"M." (Swansea).—Multiply the returning charges by the produce, and substract the amount from the standard; the remainder will be the amount to be paid to the seller for 1 ton of fine copper in the ore. Consequently:—Multiply the standard by the produce, divide by 100, and from the quotient deduct the returning charge on 1 ton, and the remainder is the price per ton of ore. Working miners cannot be paid on this calculation, because ores under the average produce are worth less and over the average more per ton.

Received,—"W. A. W." (Santiago de Chile): The letter shall appear next week—"S. J."—"B. M."—"J. D. and Co." (Paris): The letter shall be forwarded to our Correspondent in San Francisco—"Shareholder" (Bath)—"J. B." (Paris)—"C. R."—"Constant Reader" (Guildford): We do not know—"W. H. P." (San Francisco)—"Shareholder" (Richmond).

The Supplementary Sheet.—We have received occasional complaints, and of late a good many, that the Journal is delivered by country booksellers without the Supplement. Subscribers would oblige us by demanding that the paper should be handed to them complete, as every Journal is accompanied by the Supplement when it leaves our office, and the fault of omission must rest with the country bookseller or their London agent.

Important Notice—Reduction of Postage on the "Mining Journal."—In consequence of the new Postal Convention, which came into operation on July 1, the postage of the *Mining Journal* to many countries will be reduced to one-fourth. Henceforth the subscription will be 1*l.* 10s. 4d. per annum (39 frs.), postage included, for the following countries. The amount will, if desired, be collected at the subscriber's residence at the end of each year. The subscription continues until countermanded:—Austria, France, Belgium, Denmark (including Iceland and the Faroe Islands), Egypt, Germany, Gibraltar, Greece, Heligoland, Italy, Luxemburg, Netherlands, Norway, Portugal (including Madeira and the Azores), Roumania, Russia, Servia, Sweden, Switzerland, United States, Malta, Turkey, Morocco, Tunis, and the Canary Islands. Spain 1*l.* 19s. (50 frs.)

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, FEBRUARY 15, 1879.

OUR EXPORTS—IRON, STEEL, LEAD, COAL, &c.

Judging from the Board of Trade Returns for January, the year has commenced anything but favourably for our leading industries so far as our exports may be taken as an indication of the trade of the country. The returns show that the value of the exports of British and Irish produce and manufactures for the month amounted to 14,196,518*l.*, against 15,423,911*l.* in January, 1878, and 15,946,080*l.* in the same period of 1877, being a decrease of 8 per cent. as compared with 1878, and 11 per cent. with 1877. The most favourable item relates to raw material in the shape of coal, of which there was an increase in the quantity sent out of the country equal to 3·1 per cent. over January of last year. Our iron and steel manufactures, however, show to marked disadvantage for the first month of the year, both as to quantity and price, for (exclusive of cutlery) the falling off was equal to 15·5 per cent. in comparison with the corresponding month of 1878. In pig-iron there was an increase from 42,948 tons in January of last year to 47,584 tons in the same month of the present year, the respective prices being 53s. 8d. per ton and 50s. 9d. per ton. This is certainly a great drop to start the year with, is most ominous as to the future, and plainly shows that the competition on the part of our ironmasters for the foreign trade in raw iron is not only most active, but that the business done is the reverse of profitable.

In almost every description of manufactured iron there is the same deficiency in quantity and reduction in price. In hoops, sheets, boiler and armour-plates, for which Italy, India, and Australia have been amongst the best customers, there has been a decline so far, the difference, however, being only between 13,605 tons in January, 1878, and 12,521 tons last month, but there was a decline in the value of the smaller quality of no less than 36,481*l.*, another illustration of the low rates now prevailing for iron of every class. A tolerably fair business was done in cast and general wrought iron, the falling off having been less than 2000 tons in comparison with the same month of last year. Taking railroad iron of every description the returns are most unfavourable, the quantity exported during January 20,478 tons, against 31,832 tons for the corresponding period of 1878. Taking the month of January for the two years, we find that so far as regards rails there has been a considerable increase in the exports of those made of steel and a decline in those of iron for the last month. In January, 1878, we exported 11,731 tons of iron rails of the average value of 6*l.* 4s. per ton, whilst last month the exports were only 4475 tons, at 5*l.* 10s. per ton, showing that iron rails are fast dying out, seeing that the difference in the price of them and Bessemer is comparatively trifling. In steel rails there has been an increase from 7266 tons in the first month of last year to 10,911 tons in the same period of the present year, but in the latter there was a decrease in the price from 7*l.* 14s. per ton to 6*l.* 9s. per ton, showing that the competition between our own and foreign makers has become particularly keen of late. Bar, angle, bolt, and rod iron show a considerable decrease so far in the year, and the same has been the case as to ordinary wire (excepting that for telegraph purposes). Makers of tin-plates have done very well, being credited with having sent away 12,566 tons, against 11,766 tons in the previous January, but there has been a decrease in the value about the same as in other descriptions of hardware goods. The returns with respect to cutlery unmistakeably show the depressed state of that branch of trade, which is peculiar to Sheffield, the value last month of the exports having been 246,898*l.*, as compared with 278,715*l.* for the same month of 1878, or a decrease of nearly 11½ per cent. The low price of lead is fully shown by the Board of Trade Returns, and whilst there has been a falling off in pig, rolled sheets, and piping from 2259 tons for the first month of last year, to 1910 for the same period of 1879, there has been a decline in the price from 21*l.* to 17*l.* per ton—a striking proof of the unprofitable character of lead mining at home. In both wrought and unwrought copper there has been a decrease in the quantity exported as well as in the value, and the same may be said with regard to mixed or yellow metal for sheathing. In brass manufactures the exports in January were less than usual, the value having been only 15,179*l.*, against 36,641*l.* for the corresponding month of last year.

The year opened out very well so far as relates to our exports of coal, the total quantity having been 1,047,369 tons, against 1,012,542 tons in January, 1878. As usual, France has been our best customer, notwithstanding the efforts made of late by the Belgian and other colliery owners to keep English coal out of the French markets, and our exports last month to that country were 322,948 tons, against 286,768 tons in January, 1878. Italy stands next, with 185,125 tons, being 35,000 tons more than in the corresponding month of the previous year. Germany, the Government of which is doing so much in favour of its own colliery proprietors, took from us this year 58,912 tons, being 20,000 tons more than the January of last year. British India is evidently cultivating its own mineral resources, for we find that whilst in the first month of 1878 we exported there 86,392 tons, last month we were only credited with 32,332 tons. There was also a falling off in the tonnage sent to Sweden, Norway, Holland, Brazil, and Malta, but this was more than counterbalanced by the increase to France, Egypt, Italy, Germany, Russia, Denmark, and Turkey. The total value was 478,840*l.*, against 494,340*l.* for the same month of last year. At this critical period in the coal trade, when the question of miners' wages is being so actively discussed, it may be opportunely stated that the value of the coal exported in January was not quite 9s. 2d. per ton, whilst for the same month of last year it was 9s. 7d. per ton, a very heavy decline, all things considered.

OUR RAILWAY IRON ABROAD.

It is undoubtedly discouraging to find that the exports of railway iron from the United Kingdom in the first month of the new year were less than the corresponding exports in January, 1878. Low prices seem at present to have had little or no effect in stimulating the demand for our rails on the part of our colonies and foreign countries. Thus in January, 1879, the shipments amounted to 20,473 tons, as compared with 31,832 tons in January, 1878, and 17,016 tons in January 1877. This result is due to the decline which is observable in the consumption of our railway iron in British India. The strain upon the revenues of India occasioned by the Afghan war has probably induced the Anglo-Indian authorities to pause in the work of railway development in the vast territories under their control; at any rate, we only sent our Eastern Empire 4095 tons of rails in January, while the shipments in the same direction in January, 1878, were 18,460 tons, and in January, 1877, 1727 tons. Some little quantity of rails went in January to Sweden, Spain, and Brazil, but these shipments have been of no great importance. The only quarter in which the demand for our rails was maintained in January was the Australasian colonies. These flourishing dependencies absorbed 6559 tons in January, as compared with 3985 tons in January, 1878, and 3356 tons in January, 1877.

The Australasian colonies were, indeed, the largest external consumers of our rails in January, and they appear likely to absorb considerable quantities for some time to come. The mail which reached London on Monday from the Antipodes reports that the increase of population in each member of the Australasian group of settlements has been as follows during the last five years:—New Zealand, 121,676; New South Wales, 101,937; Victoria, 70,295; Queensland, 56,374; South Australia, 31,789; Tasmania, 5937; and Western Australia, 2077; making a total of 290,085 persons. At this rate of increase the Australias will have a population of 3,000,000 probably by 1885; and as the ratio will become accelerated as years roll on by the natural excess of births over deaths it is not too much to assume that the white population of Australasia will have been carried to 5,000,000 by the end of the century. Assuming that no very decided development of metallurgical industry takes place in Australasia, such a population as this must necessarily consume no inconsiderable quantity of railway iron, either from the United Kingdom or from the United States. The cheapness of English railway iron as compared with American ought naturally to incline the scale in our favour, and it may be fairly assumed that as long as the Australians can obtain rails from us at a cheap rate so long will they have little encouragement to develope a metallurgical industry of their own.

For the present, at any rate, there is much activity observable in connection with the establishment of railways in our great Antipodean dependencies. In New Zealand Sir George Grey, the Premier, turned last month the first sod of the Thames and Waikato Railway. A trunk railway has also been opened in the south island of the same colony from Christchurch to Invercargill. This important line connects the interesting provinces of Canterbury and Otago. In Victoria, again, the speech delivered by the Governor on the recent prorogation of the Victorian Parliament stated that a new Loan Act would enable what the Governor termed the national system of railways to be further extended by several hundred miles into various districts in which large numbers of land selectors had made their homes. New South Wales, Queensland, and South Australia have also all railways on hand; and hence it comes that Australasia is now our best external client for railway iron.

EXPLOSIONS IN COAL MINES.

The serious loss of life which has taken place during the last twelve months from explosions in collieries has led the Government to appoint a Commission for enquiring into and reporting with respect to the influence of fluctuations of atmospheric pressure upon the issue of fire-damp from coal, as to trustworthy indicators of the presence of fire-damp, the employment of explosives, the ventilation of mines, and other particulars relating to mining generally. The object in appointing a Commission—which we see includes the names of Prof. Smyth, Sir G. Elliot, Mr. Lindsay Wood, and Mr. T. Burt—is no doubt really good, but we do not believe the result will add any to our present information regarding explosions in mines and their ventilation. We think, however, it would have been better had some of the managers of mines in our most fiery colliery districts been placed on the Commission. Mr. Burt, the member for Morpeth, is a most estimable and straightforward man, but he has never presumed to be more than a miner, and, therefore, cannot be expected to bring any scientific knowledge to bear on the important subjects which the Commission has been appointed to investigate.

As to the fluctuations of atmospheric pressure in mines, we have had volumes written upon the subject by the ablest mining engineers, practical chemists, colliery managers, and others, and we are not likely to have any new light thrown upon the subject. The barometer has long been looked upon as an instrument of the greatest value to the managers of collieries, as showing the atmospheric changes that are frequently so sudden. We know that the weight of atmospheric air over any particular part of the earth is constantly fluctuating, and we know what a fall in the barometer indicates. Yet the barometer is not now so much thought of as formerly, and one of the ablest of our colliery viewers having charge of about the fieriest mine in the kingdom, considers it an instrument that could be dispensed with in connection with coal mines, for it has been found that where there was a large quantity of gas previous to the barometer falling they would also have it previous to its rising. Mr. Embleton, the oldest and most experienced of the Yorkshire mining engineers, and one of the first presidents of the Midland Association of Mining Engineers, gives it as his experience that no more gas has been reported during the low state of the barometer than there was when it was very high; and Mr. Daglish, who has the management of several pits in the West Riding, and who has given a good deal of attention to the subject, takes the same view. Mr. Taylor many years ago read a paper on explosions in mines before the members of the Northern Institute, and prepared a table showing that many of the great explosions in collieries had taken place when the barometer was high and not low.

Many, if not all, of the great explosions that have taken place have occurred under ordinary circumstances—a discharge of gas which comes off suddenly, and which scarcely any amount of ventilation could carry off. Hence the necessity for having the best safety-lamps in mines that are known to give off gas. Under ordinary circumstances, however, the ventilation of a mine should be such as not to be affected by any atmospherical changes. It has been suggested that some explosions might be traced to molecular forces which hold back the gas. As to trustworthy indicators for showing the presence of fire-damp, we are only aware of the invention of Mr. Ansell, whose instrument is certainly a very sensitive one; but it has not been considered by colliery managers as of any practical utility for workmen or others engaged underground. Several modes have been suggested for indicating the presence or gas, but they have not met with the approval of practical men, for a miner whilst following his ordinary labour is not likely to run about to consult an instrument, and looks upon the lamp as a sure indicator of gas. Explosive agents are also to be reported upon by the Commission, and this, we should say, will be a very easy duty. The explosive used in coal mines is gunpowder, as a rule, and unfortunately we are frequently reminded of its effects. What good an enquiry into its use, with our present knowledge of it, is not quite plain. We certainly think it would be better to entirely prohibit its use in all mines in which gas has been met with; and were this done we should hear of very few explosions of a serious character.

The ventilation of mines has been frequently dilated upon by our ablest mining engineers, as the proceedings of the various associations amply testify. The furnace up to a few years ago was the system adopted for ventilating mines, but it is now being fast superseded by the fan, which it is admitted has many advantages, for the furnace has been known to cause an explosion by the gas passing over it. The illuminating of mines is an important matter, and the question with respect to it is—Can the electric light be effectually introduced into mines? and that appears to us to be scarcely sufficiently ripe for discussing. We are decidedly of opinion that we are in possession of all that science can accomplish with respect to the safe working of collieries. What is required is that the ventilation should be as efficient as possible, that in all fiery mines the best safety-lamps should be used, and blasting done away with in nearly all our mines. Should these simple rules be carried out we should seldom hear of an explosion. We have, therefore, little faith in the Commission adding in any way to our knowledge as to the prevention of explosions in mines.

ENGLISH COAL IN FRANCE.

A short time since we drew attention to the efforts that were being made to have the Seine deepened, so that English screw-steamers and other vessels of ordinary burden could go direct from any of our ports to Paris. Were this accomplished, the advantage to our colliery owners would be very great indeed, and would place them in a position to oust a good deal of the Belgian and home coal from the Parisian market. This, of course, could only be done by selling at a lower price, and giving a superior article at the same time. France, we find, takes on an average one-fifth of all the coal exported from Great Britain, the quantity sent there last year having been 3,051,726 tons, of which about two-thirds finds its way to Paris. France is consequently the best customer we have, and appears likely to be a far better one before so very long. This will be evident from the programme of public works and improvements brought forward by the French Government, and for the carrying out of which three milliards of francs have been voted. We are told that they include the completing of the network of railways, the making of new canals and the deepening of others, and the deepening of the Seine from Havre to Paris. This latter project, when completed, will enable most of the vessels now engaged in the carrying of coal to run direct to Paris, and there discharge cargo, instead of having to discharge at a seaport, and then into railway trucks, for conveyance to the capital, which is the heaviest portion of the carriage rate. The freight at the present time is nearly 14s. a ton by sea and rail; but by doing away with the latter, and running direct from Newcastle, Hull, or Cardiff, it is considered that the cost will not be more than 8s. per ton, if so much, for the existing freight for Havre and Dieppe is but 5s. 9d. per ton. To Lisbon from Newcastle the charge for coal is only 8s. per ton, and, therefore, the cost to Paris is not likely to be any more. As the policy of Prince Bismarck is to keep English coal out of Germany, to which we have sent, on an average, 2,000,000 tons annually, so that whatever loss we may sustain in that country will be more than counterbalanced by having direct water communication with the city of Paris, so that our exports of coal, by the protectionist policy of the German Chancellor, will not decrease, but in all probability largely increase. Some of the French colliery owners, for the purpose of opposing those in England, have brought forward a scheme for a canal from Paris to the Belgian frontier; but this is not likely to be carried out, whilst the work in connection with the deepening of the Seine, we are told, has already been commenced. When it is finished, according to a French writer, it will give English colliery proprietors not only the command of the Paris market, but of others in the centre of France as well. The Parisians will also be able to purchase their coal at a much lower price than at present; and having been so benefited, they are not likely to aid in the future any attempt to protect French colliery interests, for which they would have to be heavily taxed by the increased cost of the home coal.

EXPERIMENTS WITH COAL DUST.

These experiments have recently been made by Messrs. Freire-Marreco and D. P. Morison, in the Laboratory of the Newcastle College of Science, and at one or two collieries in the neighbourhood. The results of these and similar experiments by other persons have been given in a paper read before the North of England Institute of Mining Engineers The object of the experiments is to show not only that coal dust adds greatly to the violence of an explosion of fire-damp, but that it also of itself may be the cause of an explosion in a coal mine by the ignition of floating coal dust from a blown-out shot.

There is, as is known, a great difference in the amount of volatile matter in different coals, from 15 or 16 per cent. of the whole in some instances to as much as 30 or 40 per cent. in others. As a large proportion of the volatile matter when mixed with air becomes inflammable it is quite possible that the inflammable gases may instantaneously be given off from fresh coal dust when ignited by shot firing. The first effect would be to "carbonise" the coal, liberating a certain quantity of gas, and if the proportion of air present is sufficient firing it. The practical question then is, will the heat evolved from the firing of this gas be sufficient to carry on this combustion and to keep the fire burning, and causing it to spread by disturbance, and then ignition through any length or area from the place where the coal dust and air were first acted on?

The experiments made in the fitting-shop at Harton Colliery by Messrs. Marreco and Morison were performed in an apparatus so constructed that two shots were fired, the first having the effect of mixing coal dust with the air in circulation, and the second being fired just in time for the shot flame to come in contact with the mixture. The apparatus used consisted of a wooden box, divided into two parts by a partition, one part being 12 ft. in length and 6 in. square inside, the other part 10 ft. long, and similar section. The two portions are connected together at the upper end. A current of air was forced through the 12-ft. side, returning on the 10 ft. side of the box. Three windows were placed on each side, through which the length of flame resulting from firing the cannon (or shots) could be observed. Two small cannons were fired at the head of the box, one opposite each limb of the apparatus. By the use of a magnetic exploder it was found possible to fire the two cannons successfully—*i.e.*, the dust placed in the inlet side of the box was thrown up by the first cannon, and went round to the outlet side just in time to be ignited by the firing of the second cannon. The coal dust experimented on in this apparatus included representative specimens of coal from South Wales, Derbyshire, Yorkshire, Durham, Northumberland, and Scotland. When the box was clean and free from dust the flash as observed from the windows was very short, under 1 ft. in length; but with coal dust of various qualities placed in the box the length of flame was more or less increased, some of them going beyond the outlet. From 30 experiments made with coal dust about 16 of the coals gave a flame about 5 ft. in length, a number were less than this, a few nearly reached the outlet, and 11 of them passed beyond the outlet 1 ft. to 3 ft., the longest of all being coal dust fresh from screens.

There are well authenticated cases of coal dust explosions at collieries. One took place in 1870 or 1871 at a colliery in Durham. This was occasioned by the deals over the coal screens being blown down, and throwing a quantity of coal dust upon the gas-light, causing an explosion. The flame rose to a great height, and burnt one of the screen men severely, he being 14 weeks from work in consequence. Another explosion happened in a similar way in July, 1878. After the latter accident experiments were made by the manager of the colliery on different kinds of dust; that from wagon-ways from the workings and from the airways of the different seams, by letting coal dust fall in quantity of about a gallon each time upon the top of a small fire or near to it. In some of these experiments the coal dust exploded violently, the strongest explosion being got from the dust obtained from the screens, in which

instance the flame ascended vertically 18 ft., accompanied with the expanding of the cloud of dust and a rushing sound.

The discussion on this interesting paper takes place at the Mining Institute, Newcastle-on-Tyne, on the 15th instant.

ROCK-BORING BY ELECTRIC POWER.—With reference to the suggestion in the article—"A Visit to a Rock-Borer"—published in last week's Journal, a respected Welsh correspondent of considerable experience as a mining engineer has favoured us with an original letter from Mr. Thomas A. Edison, of Menlo Park, New Jersey, United States, bearing upon the subject. Mr. Edison says—"In reply to your favour of the 4th, which has just been received, I would say that the only objection to the use of electricity for the working of underground boring machines is the expense attending the production of the electricity, and this objection is one not easily surmounted at present. What the future has in store for us it is difficult to say, but it is a fact that the problem is being attacked on all sides, and there is no doubt progress is being made towards producing electricity cheap and plentifully."

MINING ACCIDENTS.—The Queen has approved of the appointment of Mr. Warington W. Smyth, F.R.S., Sir George Elliot, Bart., M.P., Mr. F. A Abel, F.R.S., C.B., Mr. Thomas Burt, M.P., Mr. Robert Bellamy Clifton, F.R.S., Professor Tyndall, F.R.S., Mr. Lindsay Wood, and Mr. William Thomas Lewis, as Her Majesty's Commissioners for the purpose of enquiring and reporting whether—with respect to the influence of fluctuations of atmospheric pressure upon the issue of fire-damp from coal; to the adoption and efficient application of trustworthy indicators of the presence of fire-damp, and generally to systematic observation of the air in mines; to improved methods of ventilation and illumination; to the employment of explosive agents in the getting of minerals; and to other particulars relating to mines and mining operations—the resources of science furnish any practicable expedients that are not now in use and are calculated to prevent the occurrence of accidents or limit their disastrous consequences.

REPORT FROM CORNWALL.

Feb. 13.—It is, perhaps, hardly fair to cite the absence of a dividend at the last Dolcoath account as a special proof of the badness of the times. Certainly if tin had been at a fair price the mine would have been able to continue in the persistent dividend-paying course which has caused it to be so generally regarded as typical in itself of the history and character of Cornish mining at large, and as in no small degree prophetic of the future. But the absence of a dividend really arises from accidental causes—from accidents which laid the bottom of the mine under water for half the period comprised in the accounts, and from the exceptional heaviness of the bills in connection with the new skip-road. Even under these untoward conditions a profit has been made, and there are probably few mining enterprises which under such circumstances a few years since would not have declared a dividend, and made up the difference in the ensuing quarter. But our mine managements have been taught wisdom. They have learnt that the wisest and the safest course—indeed, the only safe one—is to declare no dividend that has not been fully and fairly earned, and although what has now taken place at Dolcoath may be misinterpreted by those who know no higher test of the value of a mining property than its direct and immediate payment of results. Those who really know what mining is will be inclined to feel more confidence in Dolcoath than ever, especially as they have the assurance of Capt. Josiah Thomas that alike for the present and the future the mine never looked so well. We may regret that there has been any break in the continuation of the dividends paid with so much regularity for so many years, but the cloud is only a passing one, and must be recognised distinctly as such. It is a fact worth noting as bearing upon the dues question, and that solution of it for which we have always contended, the contingency of dues (as distinguished from rent and surface compensation) on profits, that here, while the profits on the quarter are 197*l.*, the dues are 625*l.*—or over 300 per cent. Of course this is a very mild proportion as compared with this payment in cases where the adventurers are not merely making no profit, but working at a loss, and Mr. Basset is a most liberal lord, who is fully entitled to what he gets, but the fact remains the same, that here, as elsewhere, we see the absence of that definite and systematic parity of interest between the lord and the shareholders that it is so desirable in the interest of both, because for the best interests of mining, we should see established.

Mines generally are looking well, and the prospects continue steadily to improve, though the persistent rainy weather is throwing a very heavy strain in many localities upon the pumping power.

The creditors in Messrs. Tweedy's bank have accepted the offer of 16s. in 1*l.*, and rejected Mr. Bain's proferred aid. They should know their own business best, but Mr. Bain certainly made out an excellent *prima facie* case for believing that a better return could be made, nor did the explanations offered at the meeting completely set that aside. In effect the question as to the extent of the deductions from the credits in which the value of the assets must, of course, depend resolved itself into a matter of opinion and of judgment rather than one of fact. However, there seems to have been this result of Mr. Bain's movement—at least it is subsequent to it—that at Tuesday's meeting there was a further offer of additional dividend if the assets realised better results. Mr. Michael Williams, too, brother of the late Sir Frederick, has offered an additional 2s. in 1*l.* to creditors of the bank up to the date of his ceasing to belong to the partnership. What with this and the 1s. from Sir Frederick's estate the loss, therefore, will not be heavy. There are still rumours that the Cornish Bank will start again, but its place is already filled, and there is no prospect that this will be the case. As a matter of course there is a great deal of feeling in the county on these matters.

Attention is being directed again to the need of providing for the men who are out of work, and at Helston the question of the reclamation of waste land has again been brought to the fore. There is no doubt whatever that there is enough work to be done in this direction to keep all the unemployed in Cornwall profitably going not for months merely but for years. Some landowners see this; others do not; and it is quite certain that sooner or later this question will have to be dealt with by the Legislature. Over and over again it is said that this reclamation does not pay, chiefly by those who are interested in keeping lands waste, either because they want them so for sport, or because under the system of entail they lack the needful capital. But over and over again in every part of Cornwall has the contrary been distinctly proved. The High Sheriff has called a meeting for Saturday next to consider what can be done to aid intending emigrants.

The improvements in the manufacture of tungstic steel, referred to in the *Mining Journal* last week, should lend us a helping hand. Several of our mines produce large quantities of wolfram, which if there was a reasonable demand would materially add to the profits.

The Davy Centenary Celebration commences to-day at Penzance, and it is hoped will meet with considerable success. The exhibition itself is one of rare interest. The Department of Science and Art contribute a large number of examples from the celebrated Loan Collection of Scientific Apparatus of 1876, the General Post Office and the Eastern Telegraph Company lend a great variety of telegraphic apparatus, and other contributors are the Royal Society, the Royal Institution of Great Britain, the Royal Institution of Cornwall, and the Royal Geological Society of Cornwall. Much that is interesting comes from private collections. Astronomy, mechanics, chemistry, acoustics, optics, thermics, pneumatics, electricity, spectroscopy, &c., are fully illustrated, and the apparatus shown includes all the scientific novelties, the phonograph, microphone, telephone, radiometer, phonerdoscope, harmonograph, ruhmkorff coil, table polariscope, gyroscope, planetarium, phonoscope, &c. A special interest attaches to the Davy relics sent down from the Royal Institution by Professor Tyndall. They consist chiefly of an assortment of lamps and apparatus used by Davy in his experiments on the passage of flame through tubes, and which ultimately resulted in the discovery of the Davy lamp. These are not only interesting in themselves but show that the great discovery which helped to immortalise Davy's name was not the result of accident but gained by patient work. Another relic of the great chemist is a portion of the famous battery of 2000 plates, by means of which he first decomposed the alkalies and discovered the metals potassium and sodium.

The Science and Art Department contribute a large quantity of apparatus and illustrated diagrams, including Whitworth's measuring machine, constructed to measure to 1,000,000th inch; a model for demonstrating waves of sound; Otto von Guerick's air-pump; Arabian planisphere and astrolabe, &c. There is a table specially illustrating, by select specimens, the chemical elements, and to this Messrs. Johnson, Matthey, and Co. contribute about 4000*l.* worth of the pecious metals, including specimens of platinum, palladium, osmium, ruthenium (valued at 2000*l.*), iridium, and numerous other metals never before seen in Cornwall. Prof. Barrett, of Dublin, sends apparatus illustrative of sensitive flames, and also of sound. Miss Anna Maria Fox, of Falmouth, sends the late R. W. Fox's magnetic balance and dipping-needle. There is a good number of electric lamps from Mr. W. J. Lancaster, of Birmingham, Messrs. Jackson and Co. (Dubosc's and Orme's lamps), and others. Dr. Theodor Schuehardt, of Gorlitx, Silesia, sends a remarkable collection of rare chemical bodies, and Mr. C. W. Siemens, F.R.S., sends his machine for generating electricity for the electric light. There will be more than 30 microscopes and spectroscopes in the Lecture Hall, and the electric light will be practically utilised in lighting the halls. Numerous lectures will be delivered, to which in their bearing upon mining we hope to refer next week. The exhibition was opened by the Mayor of Penzance.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Feb. 13.—Finished iron makers have a little more to do this week in high class sorts. Bars required by the railway companies and by the engineers are in somewhat better demand. The prospects of the makers of rivet iron are brighter, consequent upon some good enquiries for rivets, and the like being upon the market from Government and other sources. Sheets and plates are dull; of the two, the sheet makers have the most to do. To obtain orders, makers of this description have found it a necessity to reluctantly accept prices which they stoutly refused at the quarterly meetings. At 7*l.* 15s. and 7*l.* 10s. good "singles" are now obtainable. There is a somewhat better enquiry for pig-iron for forward delivery at present rates, but makers mostly decline long contracts upon these terms. The quantity needed for current consumption was never smaller. As to coal, it is noticeable that the pits which are near to the railways are not now having it so much their own way as of late, for the opening of the canals to free traffic is allowing business to resume its ordinary channels. The result is seen, as I have indicated, in a more equal distribution of orders, and in the starting of pits that had hitherto been closed ever since the end of last year.

It is satisfactory that the ironworkers' leaders show no inclination, in spite of the low point to which wages have fallen, to overturn the good effects of the Mill and Forges Wages Board in this district. At a large meeting of ironworkers on Monday at Wednesbury, convened for the purpose, resolutions were passed in favour of a wider range of the operations of the board. The most important provided for the division of South Staffordshire and East Worcestershire, North Staffordshire, and Shropshire into twelve districts, each with power to elect one operative member to the board. It was further determined that workmen who join the board without their employers may claim to be governed by its decisions, and that no reductions in wages, except those approved by the board, shall be recognised as legal.

An interesting illustration of the obstinacy which colliers offer to any proposal by masters with a view for lessening expense has just occurred at the Sandwell Park Colliery. There the men have hitherto descended the pits in cages of eight, but recently the company obtained, in accordance with the provisions of the Mines Regulation Act, 1872, the sanction of the Home Secretary to the men descending twelve at a time. When afterwards the company made the alteration the men refused for some few days to accede to it. Now, however, they have been persuaded by the Union agent for the district to agree to the change.

The directors of the Sandwell Park Colliery Company have determined to pay an interim dividend for the half-year ending Dec. 31 last at the rate of 5 per cent. per annum.

On Wednesday, at a meeting of the Mines Drainage Commissioners, in Wolverhampton, a general drainage rate was levied for the half-year ending Dec. 31 last, at the rate of 1d. per ton on all minerals raised; 1509*l.* on general, and 3953*l.* on mines drainage account were also voted.

The North Staffordshire coalowners are this week receiving more orders for manufacturing coal than for some time past. The improved demand is chiefly from the earthenware manufacturers. Ironstone and pig-iron remain very dull of sale. Finished iron is in slightly better request, and more activity is apparent at the works.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

Feb. 13.—I was glad to see Mr. Spargo's letter in the Journal of last week, for he is a gentleman who has exerted himself very much to develope the mineral resources of Carnarvonshire. The letter also affords me an opportunity of saying that my good opinion of the stone on Messrs. Stutchbury and Heathcote's quarry near Portmadoc is based partly upon the assertion of Mr. Davies, the engineer of the borough of Liverpool, that "the stone is among the best that he has had submitted to him," and partly on the opinion of Mr. Stoddart, analyst of Bristol, who says "it squares well, and is one of the best materials for pitching, paving, or building purposes that I have ever examined," and partly on my own mineralogical knowledge of the stone. Mr. Spargo falls into the common error of regarding greenstone as a species of mineral, whereas it is the popular name given to a family of minerals. There is angitic greenstone, hornblendic greenstone, syenitic greenstone, compact greenstone, &c., and I venture to say that in almost every quarry in North Wales in such rocks, including those in which Mr. Spargo is most interested, we could find all those varieties, inasmuch as they all belong to the same geological age, and are all more or less varieties of greenstone. The bulk of the stone at the Portmadoc quarry is a syenitic greenstone.

In the Penmaenmawr Quarries there are three distinct granular varieties, beside the "whinstone" referred to in the letter. Finally, the hornblende which Mr. Spargo thinks constitutes the rock at Portmadoc a greenstone is the common characteristic of a series of rocks which are known as the "hornblende series," and which include granite, syenite, diorite, diorite-porphyry, and red porphyry. It may interest some readers if I add the analysis of the Portmadoc stone referred to, which is this:—Silica, 66·69; alumina, 18·50; lime, 5·41; magnesia, 2·54; potass and soda, 5·42; ferric and ferrous oxide, 4·73; manganese, a trace; moisture, 2·61; loss, 0·10; total, 100·00.

It is announced that a further reduction of 20 per cent. in the wages, and a reduction of working time to three days a week, is to take effect at Mr. Smith's quarries at Llanberis. The Carnarvonshire slate quarry, to the whereabouts of which is not known to me, has gone into liquidation. Emigration agents from New Zealend are busy among the quarry population, and I should not be surprised if there is not before long a wholesale exodus of young fellows with their wives, sisters, and sweethearts to the new land of promise, especially if the masters push their present power of reducing wages too far.

Turning over a file of the *Mining Journal* for 1876, last night, I was attracted by a half-column advertisement headed, in large type, "Important Extraordinary Opportunity for Making Money," &c. This was to be done by investing in the Talybont Silver-Lead Mining Company, Cardiganshire. The mine was glowingly described in its historical connection with Charles I. and Mr. Bushel, and the captain, in all his 40 years mining experience, never entered upon his new duties so confident of success, &c. In my curiosity I turned to the Mineral Statistics for 1877, where I learned that the production of lead ore that year was 20 tons! Not much to be made out of 20 tons of ore a-year, I fear. I am afraid that with Charles I. the glory of the mine departed. I mention this as an illustration of that reprehensible system of palming old exhausted mines upon the public for large sums, which, to the disgrace of mining enterprise, is too common.

An attempt has been made at Shifnal to convict an underground manager of a colliery of manslaughter, which has failed. One must always desire that justice be fairly administered, but it is a matter for congratulation that such attempts to fix criminal negligence are difficult to obtain. Sometimes they are prompted by that desire we all too much feel to find a victim at any cost, and sometimes worse, by the hope of greedy relatives, who never cared twopence for the deceased while living, to get substantial damages. I have seen such with their legal advisers crowding at inquests.

The Salt Trade of Cheshire during the last year, like other branches of mining industry, kept up its production, but at barely remunerative prices. This trade seems to be a peculiarly "British interest," for our largest customers are the countries of Europe where salt mines are worked; and it appears that with a moderate import tax we can compete with any country in the world. A home tax of 6d. per ton to cover the surface damages recently complained of would not, it is said, interfere with the prosperity of the trade at all.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Feb. 13.—The disappearance of the snow has had the effect of relieving the distress in several of the Derbyshire manufacturing districts, but in Chesterfield there are still many families dependent on the local fund. In the lead districts work goes on now much as usual, and there has been little change to be noted at the mines. A moderate quantity of ironstone is being raised, but a great deal more is being imported from Northamptonshire. There is every reason to believe that the new system for converting ordinary pig into steel will be adopted before long, for a heavy tonnage of hematite iron is consumed at the extensive Bessemer establishment at Dronfield, so that steel rails are likely to be made cheaper than they are, and those of iron receive their quietus. In pig-iron there is still a fair output, but the demand has in no way improved, whilst prices are still unremunerative. At the foundries there is a little more doing, but there has been no material increase in the number of hands employed. The collieries have been working very well, owing to the active demand there has been for house coal, but, with the change there has been in the weather, in all probability this state of things will not continue much longer, whilst prices are not likely to be so high as they now are, although they may be said to be little more than paying. To London a heavy tonnage has been sent over the Midland from Clay Cross, Blackwell, Grassmoor, and several of the leading collieries, whilst the Great Northern, over its branch between Derby and Nottingham, is increasing its traffic from several places. In steam and other coal there has been no improvement to note, the consumption being principally confined to furnaces and locomotives, the exports being still of a limited nature. Plentiful as coal is, and consequently cheap, new pits are being sunk by two or three firms to the Kilburn coal in particular. As similar operations appear to be going on in other districts, it is evident that coal is not likely to advance in price, for there is very little likelihood of the consumption overtaking the production, and capitalists are evidently doing all they can to prevent such a wished-for consummation.

In Sheffield trade has not undergone any material alteration, but there are not so many persons seeking for aid from the Mayor's fund, the change in the weather having led to employment being found for many out door workers. The mills as a rule are not fully employed, and this is more particularly the case with those rolling heavy armour-plates. In fact, the heavy branches of the iron trade are those that have suffered the most and the longest. The Bessemer rail makers have still plenty to do, but prices have come down, although not so low as has been stated with respect to one very large order. In crucible steel business is still, and many of the furnaces standing, as they have been for a long time. Some of the principal cutlery establishments are fairly off for work, especially in the best descriptions of table knives; but in inferior qualities there has been no alteration. German pocket-knives are now being sent to England in considerable quantities, as well as scissors, and are extensively purchased, as they look well to the eye, and are low in price as compared with similar manufactures of our own. At some of the foundries there is a little more activity, but there are still a number of moulders only partially employed, but a change for the better is now confidently looked forward to. File makers are not doing much, and saw manufacturers are far from being busy. Engineers and machinists are in about the same position as they have been for some time, with the exception of perhaps one of the locomotive works that are rather better off. The coal trade throughout South Yorkshire has been very fair so far as relates to household qualities, for which the demand has been such as to afford the men at many places at least five days a week, and at others full time. The business with London has kept up very well, but it is scarcely so good as it was two or three weeks since, when the strike of the Midland Railway employees sent a good deal of the London traffic over the Great Northern from the Barnsley and Wombwell districts. There has been no improvement with respect to steam coal, which goes off slowly, a good deal of it being stacked on the pits' banks. Engine fuel also meets with a slow sale, and the same may be said with respect to smudge and slack. A considerable quantity of coke is being turned out for the ironworks in Lincolnshire, as well as for some of the works in Sheffield.

TRADE OF THE TYNE AND WEAR.

Feb. 13.—The general trade on these rivers appears to improve a little, but until the Baltic and ports in Northern Europe are open it will be difficult to judge as to the amount of increased trade likely to be experienced in the coal, coke, and other trades. The demand for best house and gas coal continues steady, but for steam coal the demand fluctuates much, although, on the whole, the shipments have certainly been considerable. The extra demand caused by the late severe winter has enhanced the price of house coal to a certain extent, and the price on the Wear has reached 12s. 6 l. per ton, but this demand may now be expected to moderate as mild weather has returned. The steam coal trade can only be described generally as very quiet, although there is an improvement in the amount of work done at the collieries. In the Blyth district the demand has improved a little, but the men have been specially required to send larger coal out. Only coal of good size and perfectly cleaned from brass and refuse are now shipped. In Durham the demand for coke and for manufacturing coal continues very sluggish, while there is a good demand for best house coal. The notice given by the masters of a further heavy reduction in miners' prices, and also the refusal of arbitrators, has caused great consternation and dissatisfaction, and the result may possibly lead to serious strikes, general or partial. It is, however, possible that a compromise may be made should the amount of reduction proposed by the masters be seriously reduced. The rule is, of course, to close collieries in Durham at present, and this applies especially to the western districts of the county. It is, therefore, a little cheering to note that the Shotts Colliery is to be reopened; this is a large colliery adjoining the old and extensive Haswell Colliery, and belonging to the same owners. The Ryhope Colliery also belongs partly to the same owners, the late Mr. John Taylor having been partner and principal manager of those works. Some of the most important offices held by the late Mr. John Taylor have been given to Mr. J. B. Simpson, of Ryton, a mining engineer who has already attained considerable eminence, and is held in high estimation for his many estimable qualities as a gentleman.

The final operation is now nearly completed at the Whitburn new winning—that is, the insertion of the metal tubbing, or rings, which are used in the Chaudron system. The foundation of this tubbing will rest within the shales of the coal measures, thus shutting off the formidable water feeders met with in sinking through the limestone, which proved to be upwards of 10,000 gallons per minute. The pit will be sunk in the course of the present year to the coal

beds by the ordinary system, with several notable improvements—that is, shot firing by electricity, &c.

The North-Eastern Railway Company have made a contract with a Sheffield firm for the supply of 25,000 tons of steel rails, the price being extremely low—4*l.* 9*s.* 6*d.* per ton. It is, of course, marvellous that steel rails can now be produced at a price below the cost of iron rails. The tender of Bolckow and Vaughan, of Middlesborough, was a little above (a few shillings) that of the Sheffield firm. The Iron Shipbuilding Trade is good; on the Tyne alone there are 44 steam vessels of various sizes in course of construction, but this activity, it is possible, may be interrupted by a strike, as the masters have given notice for a reduction of 10 per cent. in wages. This notice terminates on the 19th inst., and the proposed reduction will affect about 12,000 men. Two fine steamers, built by Leslie and Co., for Bilbao, had their trial trip at sea a few days ago.

The market at Middlesborough, on Tuesday, was pretty well attended, but business was slack, and there was a less favourable tone about the trade. As compared with last week, prices were not so good, taken on the whole. The larger makers are refraining from selling, quoting 34*s.*, less 1 per cent. Those, however, who are compelled to sell are doing business at a much less figure, which averages about 33*s.* net No. 3, and 32*s.* 6*d.* ditto for No. 4 forge. Merchants state that they have been able to get even more favourable terms than these, and forge iron it is stated has been sold at about 32*s.* net. Unless where there is necessity to part with iron the makers are holding back, believing that prices will be better in the spring. The shipments of iron with milder weather have considerably improved during the week. This is considerably noticeable to Scotland, on account of which above 7000 tons were sent forward. Merchants during the severe weather were not able to make deliveries regularly for Scotland, and great inconvenience and loss of sale were thereby occasioned. Now, however, an improved trade is looked for, especially as there is a good margin between Scotch and Cleveland prices. Though fair deliveries are being made for the present, the continental trade is not looked forward to very hopefully. Germany it is thought will be largely closed to English iron, while the fact that Belgium retains a duty of over 4*s.* per ton will limit the sale in that country. The question of ten instead of nine hours' labour has been under discussion by the Cleveland Engineers' Association. The tendency of the discussion was to favour ten hours, but no formal resolution was passed. The men employed at Messrs. Allen's foundry, South Stockton, have been out on strike against increased hours and reduced wages. Though the manufactured iron trade has been dull, and there has been no additions made to orders worth notice, the plate mills are doing rather better, as specifications are coming more freely forward Ship-plates are 5*l.* 7*s.* 6*d.*; common bars, 5*l.*; angle, 5*l.* 2*s.* 6*d.*, less 2½ per cent. There is more foundry work given out, chiefly in railway chairs. There is nothing fresh to report in the steel trade.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

Feb. 13.—The shareholders of the Taff Vale and the Rhymney Railway Companies may congratulate themselves upon the dividends they receive for the past half-year. The Taff Vale will pay a dividend at the rate of 12 per cent. per annum, and a bonus of 2 per cent., while the Rhymney makes a distribution at the rate of 8 per cent. There is one suggestion that might be thrown out. While the shareholders are receiving such handsome dividends trade is greatly depressed, and could not greater concessions be made to colliery proprietors and others to help them to stem the tide of depression.

There is no news of importance from the Dinas Colliery. Not one of the bodies has yet been got out, although exploring operations are carried on as vigorously as possible. The interior of the colliery is stated to be a mere wreck, and the force of the explosion, it is asserted—in fact is apparent—must have been tremendous. Subscriptions to the relief fund are not coming in over briskly.

The question of reducing wages is now an important one in the district. The Sliding Scale Committee held a meeting a day or so ago, and although the proceedings were private, it is inferred they related chiefly to the wages question. It is manifest that if colliery proprietors are to keep on operations a reduction in the cost of production must be made. The men employed at the Powell Duffryn Collieries have refused to accept a reduction of 10 per cent., and the question is an important one, as it affects between 2000 and 3000 men. A delegate meeting to consider the modification of the sliding scale is to be held on the 24th, and the men ask the company to let them work at the old rates till then. The company reply that they are independent of the Association, and if their terms are not agreed to they must close the pits. A large number of the men have already left work. Depend upon it a general reduction throughout the district will have to be made. It is also stated that Messrs. Brogden's men have been given the choice of three alternatives—either to accept a 10 per cent. reduction, to submit to a reduction of 4d. per ton, or to go back to the long-hours system. The Tondu Ironworkers have accepted a reduction in wages.

The creditors of Richards and Co. (Limited) have met together, and agreed to accept a composition of 4*s.* 6*d.* in the pound, payable at three, six, and nine months. The shareholders have met, and formally resolved that the company should be wound up voluntarily. The company is to be reconstructed. In the course of some formal proceedings, *re* the West of England Bank, the solicitor for the liquidation stated there was no foundation for the rumour that the creditors would not receive 20*s.* in the pound. The Newport Tramway Company's directors have declared a dividend for the past half-year at the rate of 5 per cent. per annum. This is an improvement, for in the corresponding half of last year the directors were only enabled to divide at the rate of 2 per cent.

There is evidently a movement in the Iron Trade, for during the last few days—since last report—clearances have amounted to the now large total of between 6000 and 7000 tons. Of these over 2000 tons went to India, about 2500 to Brazil, 1100 to Egypt, and 650 to Norway. Of course, these point to more work being at hand at several of the establishments. There is a move in the demand for railway iron—that is pretty evident, and it is hoped the Spring will see a further improvement. Low quotations are the great bugbear to masters, but if the men would only be content to accept wages low enough to enable employers to compete successfully with other countries all might yet be well. The bar trade is still rather inactive. Steel rails do not appear to be in quite such good demand. A serious breakage has occurred at Ebbw Vale Steelworks, which will not only entail great expense on the company but have the effect of curtailing operations for some weeks. To add to the difficulty the fitters are on strike. The Tin-Plate Trade continues to manifest some improvement both as to the demand and price.

The coal industry is still fairly active, both as to the amount of coal shipped, which has increased, and the demand which keeps good for steam coal. Not the slightest change, however, can be noted in prices, but these are generally firm. The demand for house qualities is not quite so active, but the output of all qualities is large. There is something like a revival in the patent fuel department. There are large orders in hand, and shipments have improved.

Died,—On the 9th inst., Capt. William Roberts, of East Pant Du Mine Company. This gentleman was universally acknowledged to be one of the highest authorities in respect to the millstone grit or carboniferous lime measures. His decease is widely regretted, and he leaves a circle of friends to mourn his early and respected, yet chequered career.

Mr. Alexander Allen.—We deeply regret to announce the death of this gentleman, who expired on Tuesday last. He had been the secretary of the Devon Great Consols Company for about 35 years, and highly respected by all with whom he was associated. The old shareholders who received such magnificent dividends ought not to easily forget, as individuals, the services he rendered to the company.

Bennet Woodcroft.—A large number of readers of the *Mining Journal* will learn with regret of the death, at the age of 76 years, of Mr. Bennet Woodcroft, F.R.S., for many years Superintendent of Specifications and Clerk to H.M.'s Commissioners of Patents. Mr. Woodcroft was one of the most active of those who exerted themselves for the improvement of the British Patent Law, and whose efforts resulted in the passing of the Patent Law Amendment Act of 1852, by which the privilege of obtaining protection for inventive ingenuity, previously within the reach of the rich alone, was extended to the working inventor, by the large reduction in the Government fees which was then made. Under the Act of 1852, Mr. Woodcroft held the most important position in the offices, and the advantages which have resulted to inventors and the public from his untiring zeal and industry and his enormous knowledge are inestimable. The care and labour which he bestowed in bringing together all that could be procured to elucidate the history of the progress of invention in this country were only equalled by the judgment and skill with which he classified and arranged the almost innumerable documents which thus came under his control. It is to Bennet Woodcroft that the public are indebted for the Patent Office Free Library, and for the cheap printed copies of all the specifications filed since A.D. 1600; and it was he who refused to permit his valuable models to go to South Kensington except upon the condition that no charge should at any time be made for admission to the portion of the Museum. Both the Library and the Museum are amongst the most useful in the country, Mr. Woodcroft's successor (Mr. H. Reader Lack) and the librarians and curators displaying that intelligence and courtesy which greatly economises the time of professional visitors, and enables the largest possible number to acquire the information upon the innumerable questions as to novelty and so on which constantly arise in connection with invention.

GEOLOGICAL SOCIETY OF LONDON.

Feb. 5—Henry Clifton Sorby, F.R.S. (President), in the chair.

Arthur Ernest Baldwin, Sunnydale, the Avenue, Lee; James Farie, Highbury Quadrant; Benjamin Neeve Peach, Assoc. R.S.M. Melrose, were elected Fellows of the Society.——Rev. Edward Augustus Davies, Middleton, near Manchester; Lazarus Fletcher, B.A., British Museum; Arthur Samuel Hamond, M.Inst.C.E., Storey's Gate, and New-street, Birmingham; William J. Pope, Brookhill Park, Plumstead; and George W. Slatter, F.C.S., Arundel-street, Prince's-road, Liverpool, were proposed as Fellows of the Society.——George Bond, Peckham Birkbeck School; Fras. Gaskell, B.A., Burlington House, Spring Grove, Isleworth; and George Henry Hollingworth, Hollinwood, Oldham, will be balloted for as Fellows of the Society.

The following communications were read:—

1.—"On the Occurrence of Pebbles with Upper-Ludlow Fossils in the Lower Carboniferous Conglomerates of North Wales," by Aubrey Strahan, M.A., F.G.S., and Alfred O. Walker, F.L.S.

2.—"On a New Group of Pre-Cambrian Rocks (the Arvonian) in Pembrokeshire," by Henry Hicks, M.D., F.G.S., with an Appendix on their Microscopic Structure by T. Davies, F.G.S.

3.—"On the Pre-Cambrian (Dimetian, Arvonian, and Pebidian) Rocks of Carnarvonshire and Anglesey," by Henry Hicks, M.D., F.G.S., with an Appendix on their Microscopic Structure, by the Rev. Prof. T. G. Bonney, M.A, F.R.S., F.G.S.

4.—"On the Quartz-felsite and Associated Rocks at the base of the Cambrian Series in North-Western Carnarvonshire," by the Rev. Prof. T. G. Bonney, M.A., F.R.S., F.G.S.

5.—"On the Metamorphic Series between Twt Hill, Carnarvon, and Port Dinorwic," by the Rev. Prof. T. G. Bonney, M.A., F.R.S., F.G.S., and F. T. S. Houghton, B.A.

The next ordinary meeting of the Society will be held on Feb. 26, when the following communications will be read:—1. "A Review of the British Carboniferous Fenestellidæ," by G. W. Shrubsole, F.G.S.—2. "Note on a Femur and Hemerus of a small Mammal from the Stonesfield Slate," by Prof. H. G. Seeley, F.L.S., F.G.S.—3. "Note on Poikilopleuron Bucklandi, of E. Deslongchamps, père, identifying it with Megalosaurus Bucklandi," by J. W. Hulke, F.R.S., F.G.S.—4. "Vectisaurus valdensis, a new Wealden Dinosaur," by J. W. Hulke, F.R.S., F.G.S.

THE SUTRO TUNNEL.

The progress of this Tunnel has now extended to 20,489 ft. from the entrance, the lateral drift to the Julia Mine measuring 1350 feet. The utmost diligence has been used by the Tunnel Company to push the work ahead, as they are equally interested in the production of the mines above them as the owners of the mines themselves. A proposition had been made by four of the eleven of them to withdraw all standing suits against the Sutro Tunnel Company, provided the tunnel would take the water from their mines—at the same time they agreed to pay the royalty of $2 per ton. To this proposition Mr. Sutro expressed his willingness to make the agreement if all the eleven mines would subscribe to it, but to this suggestion he has had no reply.

Affairs have now been brought to a crisis by the Chollar-Norcross and Savage Mines having emptied their shaft by pumping into the tunnel prematurely. The tunnel is as yet unprepared for the reception of the water in such large quantities, and if the hot water from these mines is introduced the working of the tunnel will have to be abandoned. In this case an injunction to prevent further water being sent into the tunnel will be applied for, and I think there will be no difficulty in obtaining it.

It is obvious that while Mr. Sutro is willing to accept the proposition above stated with the eleven mines as subscribers to it he could not with any sense of justice to shareholders in the Tunnel Company accept but four of those mines, as it is well known the whole of the eleven mines would empty themselves in this case through the tunnel without agreeing to pay any royalty for the accommodation.

COMMERCIAL DEPRESSION—ITS CAUSE, AND REMEDY.

There are few things more prejudicial to business than the propagation of the view that those affected are powerless to assist in the removal of the depression which for the time being may exist, and at the present moment nothing is producing a larger amount of evil than the senseless clamour for reciprocity which is now made by the few individuals who lack the energy to meet existing trade difficulties in a manly spirit, and who have studied the science of political economy so little that they are unable to see that whether the whole or any part of their views were attempted to be carried out, a still heavier clog would be put upon trade, and that disasters greater than any which have yet occurred would be produced. Fortunately, the comparatively few advocates of reciprocity cannot claim that there is a single individual in their ranks who has acquired the smallest reputation as a political economists, and fortunately, also, both Liberals and Conservatives are equally convinced that reciprocity, although theoretically unobjectionable if it were universal, is in the present state of the world alike undesirable and impracticable. It is sincerely to be hoped that the worst phases of the depression of which so many have had to complain have now passed, and the general feeling unquestionably is that this is the case, but if, instead of endeavouring to earn profits with things as they are, we go on deploring the policy of our foreign competitors, and seeking to induce them to adopt some other, the prosperity so anxiously looked forward to will be indefinitely deferred.

The gloomy pictures of trade at the present time, drawn by the advocates of reciprocity, are not at all justified by facts, and the decrease of wages does not in all cases indicate that the workman is enabled to obtain fewer comforts than he obtained a few years ago, when wages were higher and every necessary of life was at almost famine prices. If the estimate were made upon the consideration of an average week's consumption of a working man and his family during the period of inflation it would be found that he could now as easily obtain the same articles out of the wages which he receives. The wages of workmen always have been and always will be about equivalent to the amount required for the ordinary necessaries of life, and this being so the advantage with regard to foreign trade rests with that country wherein the wages are lowest as compared with those countries competing with it. If the collier or iron worker in Belgium can procure as many necessaries for 5 fr. as the English working man of the same class can procure for 5*s.*, the Belgian masters have an advantage equal to 20 per cent. over the English masters; but the Belgians as a nation are not a whit the worse off because wages are 20 per cent. lower—indeed, they are better off, because foreign markets are secured for Belgian products which would otherwise be closed to them. To take what may be regarded as the opposite class to the workman—the banker and the shareholder in great banks—there can be found no greater cause for deploring the change. If the shareholders have been receiving as dividends 10, 12, or 20 per cent. per annum out of money which justly belonged to their creditors and customers, there can surely be no reason for pitying them if, when reckoning comes, they are called upon to return the money they have unjustly received; they have crippled their customers by their usurious practices in the days of prosperity, and are properly called upon to refund when adversity overtakes the nation.

Amongst the most recent advocates of reciprocity is Mr. S. E. Ashton, who dates his pamphlet (published by Messrs. Simpkin, Marshall, and Co.) from the St. Stephen's Club, but it is difficult to find any argument which has not been previously, and sometimes more effectively, put forward by others, although many of the statements cannot be too often repeated. It is probably scarcely correct to say that in invention and in economy of process we have been stationary (entirely from our own fault) while the foreigners have been advancing, for as a matter of fact the English are still able to produce almost every manufacture of better quality than any other nation. But unfortunately although able they are not always disposed to produce the best manufactures, and as Mr. Ashton remarks, we have made inferior goods in our haste to be rich, the natural consequence being that foreign goods equal in quality to the inferior English which now find their way into the market are offered at lower prices. Mr. Ashton's pamphlet contains a large number of facts, and although these do not furnish any ground for advocating reciprocity, it is desirable that all should be acquainted with them; it may, therefore, be hoped that it will be widely circulated.

THE WILD DUCK, OR SPORTSMAN'S ARMS.

"Well, comrades, as this is the first mitten for the year, I'll agree," says Uncle Henny, "that we'll drink a happy new year all round, and hope we may yet be spared to see many happy years, for the wheel is always going round, and if the sunny side is down now a'll be sure to come up again; so lev us be thankful for what we've got, and trust to Providence for what's to come, and now I think of it, we had no speeches last Christmas-eve from Jemmy Dowa or Old Tom, and we are now ready for them." "My speech," says Jemmy Dowa, "will be a short one, for, like all other poor children, I was put to work hard as soon as I was able to do anything, and my first work wor with the streamers in Forest Moor and Chycarne Moor, and then I went to work underground in West Tresavean Mine, which went to work in Chycarne Moor about five and forty years ago by Millett Thomas, who, some years before then, had some of the best mines in the county, and some say he had too many at one time to manage, and if he'd only drop't the poor ones he would be rich enuff. I mind very well seeing in the south part of West Tresavean sett great loose rocks of peach, with crystals of tin in them so big as sparables. There is a fine lode near this spot running into Bolenowe Cairn, but a wor never tried, and the great rocks of peach and tin I reckon must come from this lode, for I don't think the rolled up hill. The same lode and rocks of peach, &c., can be traced east through Bolenowe Cairn to the great spring well, which must be coming from it, and in my opinion, as an old tinner, this is a valuable run of virgin ground. I mind, too, when streamen in Forest Moor that we scratched the backs of several new lodes as *rud as Coose-Kitchin*, and found fine prills of tin in them. The wor never touched before nor since. Surely people must be downright mazed to go thousands of miles from home to look for bals when the are close to their doors." "You are right, Jemmy," says Uncle Henny; "the people are wuss than mazed, for millions of money have been lost in the furrin swindles—lost for ever to this country, where it might be profitably employed, but it is now in the pockets of furrin schemers, who are astonished that Englishmen could be such fools. But 'tes time, however, to hear something from Old Tom." "I'm rather dry, and should like a taste of the flip fust," says Old Tom. "Here's a cup waiting for thee," says Jan Temby. "That's prime stuff," says Old Tom, "and I may as well say at once that I was reared in some sort of way up to the High Downs, and so soon as I was able to do anything I was put to trunk slime at the rolling mill stomps, Bottom-the-hill, Dolcoath. The Sampsons wor halvanmen then, and Whitlocks, and Jenkin, and Nance, and lots more. Bottom-the-hill was rich then. The tributers used to get fine sturts, and wor not particular in dressing their ore, so the halvanmen had fine times of it. Why, bless your hearts, Uncle Will Sampson (Rover) used to spend more money every week in snuff than it would cost now to support a small family. The used to drink a good drop of toddy too in the days, and the wor good times, but the and the old men are all dead and gone. After a time I got a job to tend the cobbers. There was a great cobbing-house called the 'Roarer.' There wor 60 maidens in it, cobbing and bucking; no crushers in the days. It was a 'roarer' sure enuff when in full swing, and if any conceited young fellow come in and presumed to carry on a improper joke almost while you wink he would be floored, and get such a mauling that he would be glad to slink off like a dog with his tail between his legs, and would not visit the 'Roarer' again in a hurry. Bottom-the-hill in the days wor like a swarm of bees, and full of copper and tin, and men, boys, and maidens. The longest thing I can mind there was the 'old puffer-whim' put up by Capt. Trevithick. A used to puff, and snort, and kick up a purty row. I was sent from tending cobbers underground, and never shall I forget the first time I was down to the 60 in the 'great run.' The gunnies I should think wor 60 ft. wide, all worked away for tin and copper. We had to clem a swing chain ladder 18 fms. long; as everyone got in a would swing off, and keep swinging in the great gunnies till we got to the brace, and by that time our arms would ache enuff. The pitches in this great run wor worked on swing stages. A few deep holes in the sides would break hundreds, perhaps thousands, of tons of stuff. The tributers seldom worked more than one week in the two months, and the danger the went through in that one week was quite sufficient for a man's life. For the rest of the two months a lot of hardy young fellows would be employed to break up the rocks and keep the steam-whim going. This was the way mountains of ore was rose in the Bottom-the-hill in the good old times. A good deal of tin wor rose then too, so that tin is no new thing in Dolcoath. As I got to be a hardy youngster I was put from filling the kibble to breaking rocks, and then to work on the swing stage, and to *consarn for a man*, and have been a tributer ever since. I should like to see some of the 'science class miners' put to hang a swing stage in the 'great run,' and work upon un afterwards. I tell ee what, men, it would make the great presidents and little presidents of all the institutions look very queer if the wor put to do the work I've done, or tell anybody eles how to do it. There used to be frightful accidents, and I may tell ee about some of them next mitten. So, Jan Temby, old boy, I've done, but I am dry again." "I thought," says Jan, "thee's be ready for a drop more, so here's a cup of flip waiting." "And after that speech," says Uncle Henny, "I'm sure all will agree that Old Tom is entitled to un; and now as the landlord is just come in I'll ax un what's his opinion of strikes." "My opinion of strikes," says Cousin Will, "is that they mean high wages, high living, high spending, short time working, ruination to employers, and starvation to themselves. Strikes have ruined the iron trade in this country. It is contrary to all law human and divine for the servant to be above his master. Frenchmen work one-third more hours than our workmen, and for less wages than our men get for short hours, and this is the reason, or the principal one, of all the misery in our iron and coal mines. We were very near having the same state of things in a large mine in an adjoining county, and the adventurers were very wrong to give way one inch to the men, for if the men will not work on fair and reasonable terms, and according to circumstances, let them go where they can do better. You know very well men, as old experienced working miners, that if you work short cores you must not expect long pay, and that it is impossible to do so much work in six hours as in nine hours, and that the meaning of four-weeks month is good pay for little work. No man who is willing to work ever thought about four or five weeks months, because the longer he works the more he gets. We all know that work is very scarce in some districts, but when all things are considered the wages after all is not so very low. Bread is good and cheap, every man has a white loaf. No barley hoggans now, Compare the price of bread, tea, sugar, coffee, &c., and cloth-

ng of all kind, with the prices of those articles 40 or 45 years ago, and I think that you will agree with me that 3*l.* 10*s.* a month now is so good as 4*l.* 10*s.* was then." "That's true," says Jan Temby, "and every one in this mitten is able to prove it. Again, it has often occurred to me what a saving may be effected in every workman's family by baking their own bread, instead of them giving their money to the bakers, for let me tell you that 1 cwt. of good flour will produce 1¼ cwt. of good bread. Just calculete this saving in 12 months, besides the certeinty of having pure and wholesome food." "We all thank you, landlord," says Uncle Henny, "for your speech, and we, old working miners, agree with every word you have said, for we know 'tis true. There wor several more questions I was thinken to ax the landlord, but must lev it till next mitten." "That's right," says Jan Temby, "so we'll finish this jug of flip I have just made, and drink the landlord's good health, and part in peace and good fellowship."—*From Cousin Jack's Unpublished MSS.*

THE WEEK.

SATURDAY, FEB. 8.—The principal feature to-day was the continued firmness of Atlantic and Great Western Railway securities. Attention was drawn to the First Mortgage when at 28; to day 36 was the dealing price. During the same period the Second have moved up from 11 to 16, and the Third from 5¼ to 7. Brighton, A, touched 112*l.* to-day; this is a recovery of 5*l.* from the lowest reached. A rather large business was done in Chatham Ordinary and Preference, both of which are expected to have an advance. The rise to-day was only ½ per cent., the Ordinary closing at 25½, and the Preference at 89½.

MONDAY.—Railways, with the exception of Great Eastern, all showed considerable firmness to-day. In Caledonian the rise was as much as 1¾, to 99¼. A very bad traffic return was issued by the Brighton Company; this did not, however, daunt speculators, who managed to push the price up to 113. Chatham Preference advanced 1⅜, to 91, and the Ordinary closed firm at 26. Unified fell nearly ⅞, closing very dull at 47¼. Don Pedro, 18*s.* to 20*s.*; Port Phillip, 10*s.* to 12*s.* 6*d.*; Richmond, 9⅛ to 9⅜; Eberhardt, 3⅛ to 3⅞; Gold Run, 6*s.* to 8*s.*

TUESDAY.—Richmond shares advanced to 10*l.*; the week's run was $55,000. Don Pedro relapsed to par—18*s.*, the telegram from the mine, dated Feb. 10, stating "stoping to be impeded by water." Great Laxey, Roman Gravels, and Tankerville were offered and dull. There was an active demand for Parys Mountain and Port Phillip, prices being 6*s.* to 8*s.*, and 10*s.* to 12*s.* 6*d.* Railways were dull, and a fall of 1¼ ensued in Caledonian and Brighton, A.

WEDNESDAY.—Railways were greatly in favour to-day. Great Eastern moved up to 62¼, a position not reached for many months past. Dover, A, advanced to 121¾, last account; the stock was carried over at 115¼. Brighton, A, recovered from 111⅝ to 112⅝, but 113 was touched on Monday. Strong attempts are being made to push Caledonian to par. As usual, just before the dividend period, preparations are being made in this stock, and in North British in the north to relieve foolish operators here of their money. West Chiverton shares receded to 2¼, a very discouraging price to those who recently paid the 3*l.* 5*s.* call in preference to realising at a few shillings.

THURSDAY.—Comparing the making up prices of the account now concluded with that of the end of January account, the marked feature is the recovery in English railways. Dover, A, has rallied from 115½ to 119⅝, Midland from 122 to 126, and Caledonian from 96 to 99½. East London has even shared in the recovery, having risen from 15¾ to 18. Foreign bonds have rather lost ground, the most serious fall having been in Egyptian Unified, from 46¼ to 49.

FRIDAY (*Opening*).—The recovery of 1 per cent. yesterday in Unified has induced some selling this morning, the price being ⅛ per cent. lower (47⅛ to 47¼). Brighton, A, is unchanged, but Dover, A, has advanced 10*s.* (115¾, ex div.) Don Pedro shares have recovered to 20*s.* Colorado are quoted 5*s.* higher (1⅝ to 1⅞). The demand for Parys Mountain shares continues active; business is now being done at 9*s.* and 10*s.*, which is an advance of from 50 to 75 per cent. on the price current a week ago. A few Herodsfoot changed hands in the early part of the week at 3*l.*; buyers on the market now bid higher, without inducing offers. With the exception of Wheal Peevor and South Frances, which meet with enquiry, and are firm, tin mines are neglected. Richmond, 9⅝ to 9¾. Eberhardt, 3¼ to 3¾. Port Phillip, 10*s.* to 12*s.* 6*d.* Frontino, 2⅜ to 2⅝.—*Two o'clock.*—The markets are dull. Brighton, A, has receded ½, to 111¼; and Dover, A, ⅜. Egyptian Unified, 47⅜ to 47½. Mexican Railway, 1¾ to 1⅜. Luna Railway, 5¼ to 5¾. General Credit, 4⅞ to 5⅛. National Discount, 8½ to 9. India Rubber (silver), 10¾ to 11¼. Moyar Coffee, 3 to 3¼.—*Four o'clock.*—Brighton, A, became very flat towards the close, receding to 110¼. Chatham and Caledonian remained firm. Unified, 47¼ to 47½. Richmond, 10⅞ to 11. Don Pedro, 19*s.* to 21*s.* At the Parys Mountain meeting this afternoon the proposed resolutions were carried unanimously. Chapel House, 2½ to 2¾. Newport Abercarn, 3¼ to 3¾.

FERDINAND R. KIRK.

GREASE REGULATORS FOR MACHINERY.—The invention of Mr. C. N. LEROY, of Paris, consists in the addition to and combination with the usual lubricator or grease box of a supplementary grease cup, terminating in a tube, the conductor of the grease to the axle or revolving shaft; the end of this tube is soldered to a slide tube, to which is attached three or more small tubes soldered together, and passing upwards into the first-mentioned tube; this slide is regulated by moving a small shaft attached to it, and so more or less lengthening the tube. This apparatus is placed inside the ordinary lubricator, and the heat engendered by the friction of the bearings dissolves the grease, which in a liquid state then flows through the small tubes on to the revolving piece.

MANUFACTURE OF MAGNESIUM.—The usual method of manufacturing magnesium consists in fusing magnesic chloride with sodium, which along with other substances employed for the purpose of promoting fusibility are placed in an earthen retort and heated. According to the invention of Mr. T. HESKIN, of Preston, the magnesic chloride may be fused in a retort as above described, but instead of the sodium he employs the gases hydrogen and carbonic oxide, or one of them, which are or is caused to pass through the retort whilst the magnesic chloride is in a state of fusion. The hydrogen and carbonic oxide, or one of them, will combine with the chlorine of the magnesic chloride, leaving the metal magnesium as the result. The hydrogen and carbonic oxide may be produced by passing superheated steam at high pressure through heated anthracite or other coal, which will decompose the steam into its constituent gases, oxygen and hydrogen, uniting with the oxygen to form carbonic oxide, and setting the hydrogen free. The by-products resulting from the improved process may be utilised. Thus, the hydrochloric acid may be used for converting a fresh supply of magnesic carbonate into magnesic chloride, and any other of the products which are combustible may be used as fuel for generating steam or other purposes.

PICKS AND DRILLS FOR BLASTING.—At the present time miners' picks are ordinarily formed of a double-ended blade, with a wooden handle secured to it at the centre. As the points at the end of the blade become blunted the blade is replaced by another with sharp points. Attempts have also been made to form the blades with removable points, but hitherto with but little advantage. Messrs. FISHER, TWIGGER, and ROSS, of Clifton Colliery, Nottingham, form removable points, with tapered stems to enter corresponding sockets in the ends of that portion of the blade to which the handle is attached. The taper of the stems and sockets is such that the points hold fast in the sockets, and require no fastening. In order that when a point becomes blunted it may be removed and replaced by a sharp point a cross slot is formed at the base of each socket to allow of a drift being driven in behind the stem of the point, and the point thus driven out of its socket. The advantages to be gained by this form of pick over others in use are—That the first cost for the number of points will be less; that the points only will have to be taken to and fro from the place of work for sharpening; and that a workman can have any number of sharp points by him when at work. Picks used for other purposes, and drills used in boring holes for blasting, can be formed in the same manner with removable points or ends that require no fastening to hold them in place when at work, and yet can readily be taken out and replaced whenever desired.

MATHEMATICAL AND ARTISTS' INSTRUMENTS.—The series of abridgments of specifications of patents relating to optical, mathematical, and other philosophical instruments, and to artists' instruments and materials respectively, issued by H.M.'s Commissioners of Patents, each contains a vast amount of information as to the progress made in this direction, and each is provided with an introduction which not only shows that the gentlemen entrusted with the making of the abstracts were thorough masters of the subjects dealt with, but also adds materially to the interest attaching to the perusal of the specifications. It appears that the Chinese were acquainted with the mariner's compass as early as B.C. 2600, and are said to have observed the length of the shadow of a gnomon compared at the summer and winter solstices B.C. 1100. The volume on mathematical instruments is of peculiar interest, since by the study of it one may really trace the progress of discovery of the laws of Nature, and thus acquire much useful knowledge.

The Lord Chancellor has appointed Mr. ARUNDEL ROGERS, of the Western Circuit, to the judgeship of the County Court on Circuit 27, vacant by the resignation of Mr. J. W. Smith, Q.C. Mr. Rogers was called to the Bar in 1862, and is the author of the treatise on "Mines and Minerals" and a work on the Judicature Acts, &c.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WEST ROSKEAR MINING COMPANY.—Notice is hereby given, that a PETITION for the WINDING-UP of the above-named company by the Court was, on the 6th day of February instant, presented to the Vice-Warden of the Stannaries by William Harvey, Henry Whitford, William West, William John Rawlings, William Husband, Francis Harvey, and Nicholas James West, carrying on business as General Merchants at Hayle, within the said Stannaries, under the style of "Harvey and Company," and also at Camborne, within the said Stannaries, under the style of "The Camborne Trading Company, claiming to be creditors of the said company, and that the said petition is directed to be heard before the Vice-Warden, at the Prince's Hall, in Truro, in the County of Cornwall, on Saturday, the 1st day of March next at Eleven o'clock in the forenoon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioners, or their solicitors, of his intention to do so, such notice to be forthwith forwarded to P. P. SMITH, Esq., Secretary of the Vice-Warden, Truro.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same from the petitioners, or their solicitors, within 24 hours after requiring the same, on payment of the regulated charge per folio.

Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before the 26th day of February inst, and notice thereof must at the same time be given to the petitioners, or their solicitors. HODGE, HOCKIN, AND MARRACK, Truro, Cornwall (Solicitors for the said Petitioners).

Dated Truro, 8th day of February, 1879.

MONDAY, FEBRUARY 17, 1879.

MR. JOHN THOMAS (Auctioneer) WILL SELL, BY PUBLIC AUCTION, on Monday, February 17th, at Twelve o'clock precisely, the WHOLE of the

MACHINERY AND MATERIALS

Of the TRELEIGH WOOD MINE, near REDRUTH, CORNWALL, consisting of—
ONE 60 in. cylinder PUMPING ENGINE.
ONE 30 in. cylinder STAMPING ENGINE.
ONE 20 in. cylinder WINDING ENGINE.
FIVE BOILERS, with fittings; 48-head STAMPS complete, with dressing floors, burning-house, &c.; weighbridge to weigh 6 tons. PITWORK, from 12 to 17 in. Main rods; capstan and wire ropes; water wheels; miners' tools; smiths' shop and tools, &c.; tramroads; ladders, &c.; wood account house (three rooms).
TIN LEAVINGS, &c.
A large quantity of TIMBER, old and new, plank, shedding, &c.; brass, iron, stores, and all the requirements of a fully appointed mine.

The whole will be offered in One Lot, and, if not sold, then in lots to suit the convenience of buyers. If not cleared out on the 17th, the sale will be proceeded with on the 18th.

To view, apply on the mine. Detailed particulars in circulars, which may be had on applying to the Secretary, T. B. LAWS, Esq., St. Andrew's House, Cornhill, London; or the Auctioneer, Redruth, Cornwall.

MR. JOHN THOMAS (of The Glebe, Redruth) has been favoured by instructions TO SELL, AT PUBLIC AUCTION, without reserve, at Tabb's Hotel, Redruth, on Friday, February 28th instant, at Six P.M. precisely,

200 (6000th) SHARES in the WEST WHEAL BASSET MINE,

Now standing in the books of the said Mine to the Forfeited Share Account.

The Mine is situated in the parish of Illogan, in the county of Cornwall. It is now being worked at a profit, and a small rise in the price of tin would enable it to pay large dividends; and as all well-informed authorities are agreed that we shall soon see higher quotations for that metal, a very favourable opportunity is offered for investment.

For further particulars, apply to— JOHN THOMAS, Auctioneer, Sharebroker, and Mine Machinery Valuer.

Any persons wishing to buy, but who are unable to attend the sale, can have their commissions carefully executed by writing the Auctioneer.

VALUABLE LEAD MINES IN CARDIGANSHIRE.
IMPORTANT TO MINING COMPANIES AND CAPITALISTS.

MESSRS. TOPLIS AND HARDING WILL SELL, BY AUCTION, at the Mart, Tokenhouse-yard, on Thursday, 20th February next, at Two o'clock punctually, the VALUABLE MINING PROPERTY known as the

POWELL SILVER-LEAD MINES,

Situate in the county of CARDIGAN, eleven miles from Aberystwith, affording rich lodes of fine ore, yielding a considerable and steady output, and capable of extensive development.

The mines are held under leases having an unexpired term of about 14 years at reasonable royalties.

There are powerful WATER WHEELS and ample MACHINERY for pumping, drawing, and crushing, with dressing plant and all needful buildings, including a convenient manager's house, with office, smiths' and carpenters' shops, and shed for workpeople, forming a complete going concern, all in good working order.

Full information, with permission to view, may be obtained on application to Capt. BRAY, Ponterwyd, near Aberystwith; and particulars may be had of J. W. LONGBOTTOM, Esq., Solicitor, Halifax; and of the Auctioneers, 16, St. Paul's Churchyard, E.C.

CORNWALL.
WEST GODOLPHIN MINE, NEAR MARAZION.

MR. A. BERRYMAN has been instructed to OFFER FOR SALE, BY AUCTION, on the above mine, on Monday, the 3rd of March, at Eleven o'clock A.M., ALL the

MACHINERY AND MATERIALS thereon:—

CONSISTING OF
ONE 60 in. cylinder PUMPING ENGINE.
ONE 30 in. ditto ditto
ONE 14 in. HORIZONTAL ENGINE, with WHIM CAGE attached.
ONE 14 in. ditto , with 24 STAMPS HEADS attached.
TWO 11 ton BOILERS; ONE 10 ton ditto; ONE 9 ton ditto.
130 fms. of pumps, from 6 in. to 14 in.; 185 fms. 2½ in. flat rods; 36 fms. 1¾ in. flat rods; 14 in. pitch pine rod timber; strapping plates, of various sizes; rod rolls; large and small shieves, in great variety and number; a large quantity of rod, flange, and other bolts and nuts; one 8 arm capstan, and about 140 fms. of ¾ in. capstan chain; a large quantity of other chain, of various sizes: new and old cast borer steel; new and old iron; new and old wire rope; 1 42 in. smith's bellows; 1 40 in. ditto, nearly new; smiths' tools; miners' tools; ladders; launders; new and old timber; wood sheds; 1 19 ft. diameter water wheel, 3 ft. breast, with 12 stamps heads attached; a large quantity of dressing machinery, and other material and stores; account house furniture, &c.

The whole will be first offered in One Lot, and if not so sold then in convenient lots. If not cleared on Monday, the 3rd of March the sale will be continued on the following day.

To view, apply on the mine to Capt. JOHN POPE; and for further information to Mr. CHARLES THOMAS, 3, Great St. Helen's, London; or to the Auctioneer, 28, Clarence street, Penzance.—Dated 14th February, 1879.

PRELIMINARY NOTICE OF SALE.
BOWERS' ALLERTON COLLIERIES (LIMITED).
YORKSHIRE.

In the High Court of Justice—Chancery Division.

MR. JOHN HEPPER (of the Firm of HEPPER AND SONS, Auctioneers, Leeds) WILL SELL, BY AUCTION, by Order of His Lordship the Master of the Rolls, SHORTLY, the

VALUABLE LEASEHOLD COLLIERIES,

FIXED PLANT, BUILDINGS, LOCOMOTIVES, ROLLING STOCK, SEA AND CANAL BOATS, TOOLS, MATERIALS, and EFFECTS belonging to the above company, and situate at Great and Little Preston Astley and Swillington, about seven miles from Leeds, two and a half miles from the Woodlesford Station, two miles from the Methley Station on the Midland Railway, and close to the North-Eastern Company's Railway from Leeds to Castleford and Pontefract, to which there are sidings, and by which there is communication with the Great Northern System.

Index plans and particulars and conditions of sale are in course of preparation, and may be had fourteen days prior to the sale (of which further notice will be given) of Messrs. PATTISON, WIGG, and Co., Solicitors, 11, Queen Victoria-street, London; of Messrs. DIBB and Co., Solicitors, Leeds; of Messrs. DOMVILLE and Co., Solicitors, 6, New-square, Lincoln's Inn, London: of Messrs. LAMBERT, PETCH, and SHAKSPEAR, Solicitors, 8, John street, Bedford-row, London; of GEORGE ARMSTRONG, Esq., Solicitor, Newcastle-on-Tyne; of Messrs. SHUM, CROSSMAN, and Co., 3, King's-road, Bedford-row, London; and of Messrs. HEPPER and SONS, Auctioneers, Leeds.

IN LIQUIDATION.
NEW WILDBERG MINES, RHENISH PRUSSIA.

TO BE SOLD (as a going concern), BY PUBLIC AUCTION, at the Mart, Tokenhouse-yard, Lothbury, on Wednesday, the 26th day of February, 1879, at Twelve for One o'clock, by Mr. HERBERT H. FULLER, of No. 1, Queen Victoria-street, E.C., the MINING PROPERTY known as

THE WILDBERG SILVER, LEAD, AND COPPER MINES,

Situate in RHENISH PRUSSIA, about forty miles north-east of Cologne, and twelve miles from Waldbröel Railway Station.

It consist of MINING CONCESSIONS in perpetuity, having an area of 1,684,657 square metres. Concessions of water for power purposes. Freehold and other lands about 140 acres, with PUMPING, WINDING, DRESSING MACHINERY, and MINE PLANT. Numerous buildings and extensive smelting-works.

Full particulars may be had on application to the Liquidator, UPFIELD GREEN, Esq., at the offices of the company, No. 2, Coleman-street Buildings, Moorgate-street, E.C.; or to the Auctioneer, 1, Queen Victoria-street, London, E.C.

TO BE SOLD (CHEAPLY) THREE of GREEN'S PATENT JIGGERS, equal to new, with DRIVING SHAFTS and PULLEYS, all complete; also a large quantity of other MINING MACHINERY.

Apply to Mr. G. WILLIAMS, Merchant, 6 and 7, Baker-street, Aberystwith, South Wales.

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For further particulars, address 10, Atlantic road, Weston-super-Mare.

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Coals obtainable from 4*s.* 6*d.* per ton. Water good and abundant.

Any description of manufactory can be carried on.

Excellent railway, canal, and dock accommodation close at hand.

Apply to RICHARD HALL, Esq., 37, Great George-street, Westminster; or Mr. THOMAS WILLIAMS, Aberdulais, Neath, Glamorganshire.

FOR SALE, a NEW 70 inch cylinder CORNISH BEAM PUMPING ENGINE, 10 ft. stroke in cylinder and 9 ft. in the shaft, with steam case, metallic piston, and wrought gudgeon. The false cover, perpendicular pipes, weigh posts, working and nozzle gear all fitted bright. A strong substantial well made engine, complete, including cast iron casings for top and bottom nozzles with bright covers, holding down bolts and wrought-iron caps and bolts for connection to main rod.

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18 H.P. PORTABLE STEAM ENGINE, with link motion reversing gear, ready for delivery; also gear to wind and pump.

A 9-h.p. VERTICAL STEAM ENGINE, with link motion, reversing gear (winding drum if required).

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HORIZONTAL ENGINE, 8 in. cylinder, beautiful and most improved design, new and complete, with pump and governor. £38.

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ENGINEER, DUDLEY, WORCESTERSHIRE.

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Any communications may be addressed Room 49, Nevada Block, San Francisco, California.

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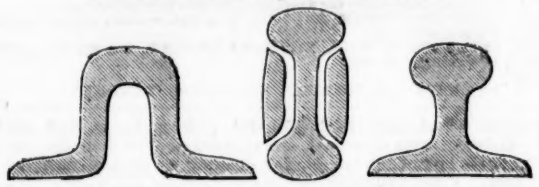

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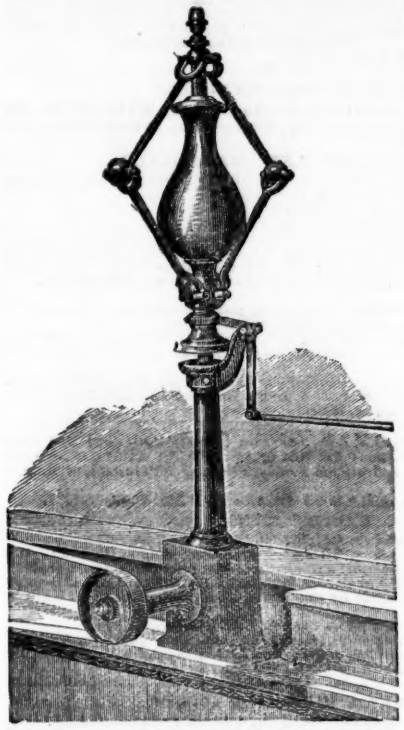

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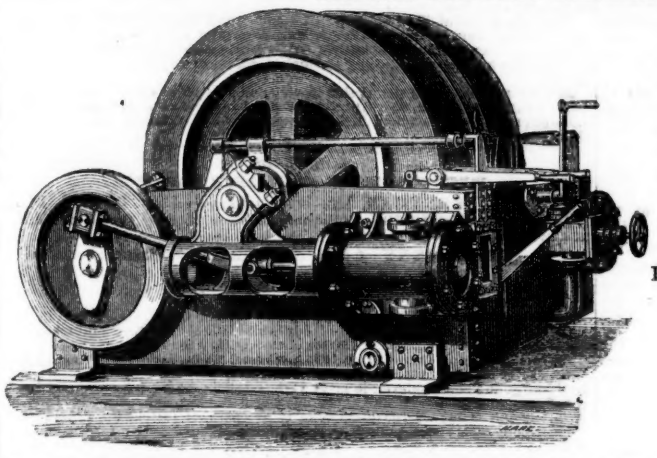

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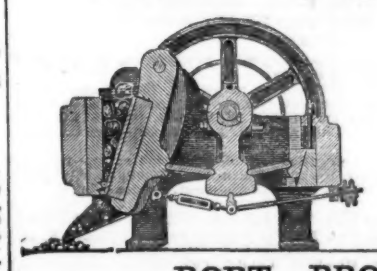

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10000	Caron, *l*, Cardigan*	2 0 0	2¼	1¾ 2¼	0 4 0	0 2 0	Oct. 1878
1000	Carn Brea, *c*, *t*, Illogan†	56 7 6	30	27 29	308 0 0	1 0 0	Feb. 1874
400	Cashwell *l*, Cumberland*	2 10 0	—	—	1 9 6	0 2 0	Aug. 1878
2450	Cook's Kitchen, *t*, Illogan†	25 4 9	1	¾ 1	11 17 0	0 7 6	Jan. 1878
240	Devon Gt. Consols, *c*, Tavistock†*	1 0 0	1¾	1¾ 1½	116 15 0	5 0	July 1877
4296	Dolcoath, *c*, *t*, Camborne	10 14 10	24	21 23	113 1 3	0 5 0	Nov. 1878
5000	East Black Craig,* *l*., Scotland	5 0 0	—	—	0 10 0	0 10 0	Feb. 1877
300	East Darren, *l*, Cardiganshire	32 0 0	—	—	235 10 0	1 0 0	Aug. 1878
6400	East Pool, *t*, *c*, Illogan	0 9 9	9¼	8½ 9	15 16 3	0 3 0	Jan. 18 9
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14000	Llandloes,* *l*, Montgomery	3 0 0	—	—	0 9 0	0 4 6	Nov. 1876
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1024	North Busy, *c*, Chacewater	1 14	—	—	1 0 0	0 5 0	Oct. 1878
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30000	Panty Mwyn,* *l*, Mold (8794 iss.)	2 0 0	—	—	0 3 0	0 2 0	Aug 187-
6000	Pedn-an-dree Con., *t*, Redruth	0 8 6	—	—	0 9 0	0 9 0	June 1877
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45793	Penstruthal,* *t*, *c*, Gwennap	2 0 0	3s.	1s. 3s.	0 2 8	0 0 8	Nov. 1875
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12000	Roman Gravels, *l*, Salop*	7 10 0	6½	6 6½	7 15 0	0 5 0	Mar. 1878
512	South Caradon, *c*, St. Cleer	1 5 0	60	50 55	744 10 0	1 0 0	Nov. 1878
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1024	Wh. Eliza Consols *t*, St. Austell	18 0 0	—	—	19 10 0	1 10 0	Aug. 1878
2048	Wheal Jane, *t*, Kea§	5 13 10	⅝	⅜ ⅝	8 5 0	0 5 0	July 1875
4295	Wheal Kitty, *t*, St. Agnes	5 4 6	1¼	1 1¼	11 19 6	0 2 6	Dec. 1874
25300	Wh. Newton, *c*, *c*, *s*, *t*, Calstock*	1 0 0	—	—	0 8 6	0 4 0	Sept. 1877
80	Wheal Owles, *t*, St. Just†	173 15 0	—	—	522 10 0	4 0 0	Aug. 1872
3000	Wheal Peevor, *t*, Redruth	7 11 0	7½	7⅛ 8	0 15 0	0 5 0	Nov. 1878
6000	Wheal Prussia, *t*, Redruth	0 5 0	—	—	0 4 0	0 1 0	July 1877
10000	Wye Valley, *l*, Montgomery*	3 0 0	2	1¾ 2¼	0 10 6	0 4 6	Oct. 1876

FOREIGN DIVIDEND MINES.

35500	Alamillos, *l*, Spain*†	2 0 0	1½	1 1¼	1 19 0	0 0 6	Oct. 1878
30000	Almada and Tirito Consol., *s*†	1 0 0	3s.	1s. 3s.	0 6 3	0 1 0	May 1876
20000	Australian, *c*, South Australia†	7 7 6	1¾	1¾ 1¾	1 1 6	0 2 0	July 1878
10000	Battle Mountain,* *c*, (6240 part pd.)	5 0 0	—	—	0 10 0	0 10 0	Nov. 1872
18000	Birdseye Creek, *g*, California*	4 0 0	⅝	⅜ ⅝	0 14 0	0 2 6	June 1874
20000	Caps Copper Mining,*† So. Africa	7 0 0	30	28 29	33 2 6	0 17 6	Dec. 1878
34433	Cedar Creek, *g*, California*	5 0 0	⅜	⅛ ⅜	0 5 0	0 2 6	June 1873
35000	Cesena Sul. Co., Romanga, Italy*	10 0 0	—	—	0 18 0	0 2 0	Aug. 1878
15000	Chicago, *s*, Utah*	10 0 0	1¼	⅛ 1	2 8 0	0 4 0	Nov. 1876
65000	Colorado United, *s-l*, Colorado*†	5 0 0	1⅝	1½ 1¾	0 13 6	0 4 0	Jan. 1875
10000	Copiapo, *c*, Chili* (£20 shares)	16 15 6	—	—	7 11 5	0 3 0	May 1877
100000	Don Pedro North del Rey*†	0 18 0	1¼	⅜ 1⅛	2 5 9	0 2 0	Mar. 1872
23500	Eberhardt & Aurora, *s*, Nevada*†	10 0 0	4	3½ 4	1 8 0	0 3 0	Dec. 1877
70000	English & Australian, *c*† S. Aust.	2 10 0	1	⅜ 1⅛	2 16 9	0 1 0	Mar. 1878
30000	Flagstaff, *s*, Utah*	10 0 0	⅛	⅛ ⅛	4 2 0	0 5 0	July 1873
25000	Fortuna, *l*, Spain*†	2 0 0	4¼	3¾ 4¼	7 3 2	0 3 4	Oct. 1878
55000	Frontino & Bolivia, *g*, New Gran.*†	2 0 0	2¾	2¼ 2½	0 2 6	0 1 6	Sept. 1878
30000	Gold Run, *hyd.*	1 0 0	—	—	0 2 4	0 0 4	Oct. 1872
100000	Hercules and Roe, *s*, Colo., fy. pd.	2 0 0	—	—	0 2 4	0 0 6	June 1873
68000	Kapunda Mining Co. Australia†	1 3 0	—	—	0 2 4	0 0 6	June 1873
20000	Last Chance, *s*,* Utah	5 0 0	⅛	⅛ ⅛	0 14 0	0 2 0	July 1878
15000	Linares, *l*, Spain*†	3 0 0	4¼	3½ 4	17 10 4	0 2 6	Oct. 1878
65000	London and California, *g*†*	2 0 0	⅛	⅛ ⅛	0 1 0	0 1 0	July 1875
7837	Lusitanian, Portugal*† (£5 sh.)	3 10 0	—	—	1 11 6	0 1 6	Mar. 1873
5000	Mamm. Copperopolis of Utah, *c*, *s*	10 0 0	—	—	0 5 0	0 5 0	Dec. 1872
5000	Mountain Chief, *s*, Utah*	10 0 0	—	—	0 4 0	0 4 0	Jan. 1873
10000	Pontgibaud, *s-l*, France†	20 0 0	24	21 23	26 19 8	0 19 9	Dec. 1878
100000	Port Phillip, *g*, Clunes*† (£2 sh.)	1 0 0	⅝	⅛ ⅝	1 12 0	0 1 0	Mar. 1879
54000	Richmond Consols, *s*, Nevada*†	5 0 0	9½	xd 9¼ 10	7 1 6	0 10 0	Feb. 1879
40000	Santa Barbara,* *g*, Brazil	0 10 0	2½	1⅜ 2⅛	0 5 9	0 1 0	Nov. 1878
120000	Scottish Australian Mining Co.*†	1 0 0	1⅞	1¾ 1⅞	15 per cent.		Nov. 1878
86000	Scottish Austral. Mining Co., New	0 10 0	⅞	¾ ⅞	15 per cent.		Nov. 1878
122500	Sierra Buttes, *g*, California*†	2 0 0	1⅞	1¾ 1⅞	1 19 0	0 1 0	Oct. 1878
140625	S. B. Plumas Eureka	2 0 0	2⅛	2⅛ 2⅛	2 1 0	0 3 0	Oct. 1878
60000	South Aurora, *s*, Nevada*	5 0 0	⅛	⅛ ⅛	0 14 2	0 2 0	Nov. 1878
£253000	St. John del Rey*† (£5 stock & multiples dealt in)		265	275	⅛ year. 15 p. ct. for Dec.		1878
20000	Tolima, *g*,* So. America	5 0 0	—	—	0 11 6	0 6 6	May 1874
28000	Victoria (London)*, *g*, Australia	1 0 0	⅜	⅛ ⅜	0 12 6	0 0 7½	Jan. 1878
15000	Western Andes, *s*,* New Granada	5 0 0	—	—	0 12 0	0 12 0	July 1876
21000	W. Prussian (5500 pref. sh. 10*l*. pd)	10 0 0	10⅛	10 10¼	1 10 0	0 4 0	Jan. 1879

NON-DIVIDEND FOREIGN MINES.

Shares	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
12000	Argentine, *g*, Argentine Republic	5 0 0	⅛	⅛ ⅛	Fully pd
3000	Bellavista, *s*, Peru* (£10 shares)	10 0 0	—	—	Fully pd.
30000	Blue Tent, *hyd.*, California	5 0 0	—	—	Fully pd.
10000	Buena Ventura,* *l*, Llano de las Infantas, Spain (£2 sh.)	0 5 0	2½	2 2½	Fully pd
49935	Chontales, *g*, *s*, Nicaragua*†	2 0 0	—	—	Oct. 1878
16000	Condes of Chili, *s-l*	5 0 0	⅝	⅜ ⅝	Fully pd.
20000	English Australian, *g*, Victoria*	1 0 0	—	—	Fully pd.
35100	Excelsior Hydraulic Gold Washing Co., California*	6 0 0	¾	⅛ ¾	Fully pd.
100000	Exchequer, *g*, *s*, California*†	1 0 0	—	—	Dec. 1871
40000	Holcombe Valley, *g*,* California	1 0 0	—	—	Fully pd.
8000	Hornachos,* *s-l*, Spain	10 0 0	—	—	Fully pd
12000	Hultafall,* *l*, *bl*, Orebro, Sweden	5 0 0	10	9 10	Fully pd
12000	Hunter Consolidated, *s-l*, Utah	10 0 0	—	—	Fully pd.
20000	Imperial Brazilian Collieries, Brazil*	5 0 0	—	—	Fully pd.
7500	Isabelle, *g*, *s*,* California (£20 shares)	5 0 0	—	—	Fully pd.
100000	I. X. L., *g*, *s*, California*	1 0 0	—	—	Oct. 1878
50000	Javali, *g*, Nicaragua*	2 0 0	⅛	⅛ ⅛	Fully pd
3500	La Manche, *l*, Newfoundland	10 0 0	—	—	Fully pd.
12000	Lanestosa,* *l*, *s*, Viscaya, Spain (£2 shares)	1 15 0	—	—	Fully pd.
75000	Malabar, *g*, Colombia* (67165 issued)	1 0 0	—	—	Mar. 1876
40000	Malpaso, *g*, Colombia* (7400 pref. shares, fully paid)	1 0 0	—	—	Full pd.
12000	Menzenberg, *c*, Honnef, Germany*	5 5 0	—	—	Fully pd.
4588	New Bensberg, *i*, *l*, Germany	5 0 0	—	—	Fully pd
66000	New Quebrada, *c*, Venezuela*	5 0 0	—	—	Nov. 1876
20000	New Zealand Kapanga, *g*, Coromandel*	5 0 0	1¼	1⅛ 1¼	Fully pd.
5000	Oregon,* *g*, Oregon, U.S. (preference shares	5 0 0	⅛	⅜ ⅛	Fully pd.
50000	Panuelillo, *c*, Chili*† (£80000 debentures	4 0 0	—	—	Fully pd.
20000	Pestarena United, *g*, Italy*†	4 0 0	1¼	¾ 1¼	Fully pd.
25000	Pitanqui,* *g*, Brazil (incl. 6000 sh. £1 fully paid)	3 0 0	4s.	2s. 4s.	Fully pd.
25000	Placerville,* *g q*, California	0 5 0	⅜	⅛ ⅜	Aug. 1878
50000	Providencia and New Rosario, *s*, Mexico*	2 0 0	2¾	2⅛ 2⅜	Fully pd.
40000	Ravenscliff, *g*, New Zealand; *c*, South Australia	1 0 0	—	—	Fully pd.
50000	Rica, *g*, Colombia* (40000 issued)	0 5 0	¼	¼	July 1878
£2,181,000	Rio Tinto,* *c*, Huelva, Spain	1 0 0	—	—	Fully pd.
60000	Rosas Grande, *g*, Brazil*† (£1 shares)	Stock	59	58 60	Fully pd.
30040	Russia Copper, Orenburg and Ufa*†	1 0 0	2s.	1s. 2s.	Fully pd.
32000	Sentein,* *l*, Ariège, France	10 0 0	—	—	Fully pd
10000	Silver Plume, *s*, Colorado*	1 0 0	2½	—	Fully pd.
80000	Tesoma, *s*, Utah*	1 0 0	—	—	Fully pd.
43174	United Mexican, *s*, Mexico*†‖	10 0 0	⅜	⅜ ⅜	Fully pd.
14000	Utah, *g*, *s-l*, Utah*	20 0 3	3	2½ 3	May 1878
50000	Virneberg, *c* Rheinbreitbach, Germany*	5 0 0	—	—	Fully pd.
15000	Yorke Peninsula, *c*, South Australia	2 0 0	—	—	Fully pd.
54800	Yorke Peninsula, *c*, South Australia Preference	1 0 0	4s.	2s. 4s.	Fully pd.

§ Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

	Closing Prices	
Argentine, 1868 6 per cent.	68½	69¼
Bolivia, 6 per cent.	47¾	47¾
Brazilian, 1865, 5 per cent.	28	29
Chilian, 1866, 7 per cent.	91	93
City of Providence, 5 p.c. coupon bnds	84	87
Egyptian, Gov. preference	99	101
Do., unified debt, scrip	68¾	69¾
Do., 7 per cent., V.M.L.	47¾	47¾
Do., 6 per cent. guar.	79	81
Do., K. Daira Sanieh	82	84
	57½	58½

	Closing Prices.	
Foreign and Col. Gov. Trust, 6 p. ct.	68	73
Do., 5 per cent., 2d issue	57	62
Do., 6 per cent., 3d issue	52	57
Do., 1872, 4th issue	55	60
Do., 1873, 5th issue	5	56
Peruvian, 1870, 6 per cent.	14½	15
Do., 1872, 5 per cent.	12½	13
Russian, 5½ per cent. L. Mort.		—
Spanish, Quicksilver Mort., 5 p. ct.	97	99
United States Mort. 6 per cent.	101	103

NON-DIVIDEND MINES.

Shares.		Paid.	Last wk.	Clos. pr
40000	Aberdaunant, *l*, Llanidloes*	1 0 0	¾	¾ ¾
2560	Aberllyn,* *l*, *bl*, Carnarvon	10 0 0	12	10 11
10000	Aberystwith,* *s-l*, Cardigan	5 0 0	—	—
80	Albion, *i*, Cornwall	100 0 0	—	—
12000	Assheton, *l*, Carnarvonshire*	5 0 0	⅜	⅛ ⅜
50000	Ballycummuck,* *c*, Schull	2 0 0	—	—
12000	Bedford Unit.,* *c*, Tavist. (*ll.* liab.)	0 1 0	¼	⅛ ¼
12000	Bell Vean, *t*, *c*, Gwennap	2 0 0	2	1½ 2
30000	Bettws y-Coed,* *l* (20,000 issued)	1 0 0	1¾	1 1¾
8000	Blaen Caelan,* *l*, Cardigan	3 0 0	3½	3 3½
3937	Blue Hills, *t*, *c*, St. Agnes	3 16 6	¾	⅛ ¾
30000	Boddris,* *l*, *bl*, Denbighshire	1 0 0	1¾	1¼ 1½
1000	Bollihope Vale,* *s-l*, Durham	5 0 0	—	—
200	Botallack, *t*, *c*, St. Just†	128 15 0	—	—
2000	Bowden Hill,* [illegible]	1 0 0	—	—
6000	Bradwell Moss Rake	1 0 0	1	¾ 1
10 00	British,* *s-l*, Wrexham	5 0 0	3	2 3
256	Browngelly, *c*, St. Neot	0 10 0	⅝	⅛ ⅝
50000	Cambrian,* *s-l*, *c*, Cardiganshire	2 0 0	2⅛	2 2⅛
20000	Central Foxdale, *i*, I. of Man*(2*l.* sh.)	1 5 0	—	—
10000	Central Van,* *l*, *bl*, Llanidloes	5 0 0	—	—
5120	Clementina, *l*, Llanrwst*	1 0 0	1¾	1 1¾
7500	Combellack,* *t*, Wendron	2 0 0	—	—
6000	Combmartin, *s-l*, North Devon	0 7 0	⅛	⅛
24000	Court Grange, *s-l*, Cardiganshire	1 0 0	1	¾ 1
15000	Cwm Brwyno,* *l*, Cardigan	2 0 0	2⅛	2 2⅛
18000	Cwm Dwyfor,* *c*, *s-l*, Wales	1 0 0	—	—
5000	Ditto, 12½ per cent. pref.	1 0 0	—	—
3000	Cwmystwith (New), Cardiganshire	5 0 0	—	—
1780	D'Eresby Cons., *l*, *bl*, Carnarvon	10 0 0	8	6 8
1024	D'Eresby Mountain, *l*, *bl*, Llanrwst	20 0 0	40	30 40
20000	Denbighshire Consolidated, *l**	3 0 0	1¼	1 1¼
12000	Derwent,* *l*, Durham	4 0 0	1½	1¼ 1½
10000	Dubby Syke, *l*, Durham*	0 15 0	2s.	2s.
6144	East Caradon, *c*, St. Cleer[	2 19 0	¾	⅛ ¾
4000	East Chiverton, *l*, Perranzabuloe	7 7 6	1¾	1 1¾
3000	East Craven Moor*, *l*, Pateley Bdge	10 0 0	10	9 10
6000	East Goginan, *l*, Cardigan	2 0 0	—	—
30000	East Roman Gravels,* *l*, Salop	1 0 0	1	¾ 1
18000	East Van, *i*, Llanidloes*	5 0 0	2	1¾ 2
1722	East Wh. Lovell, *t*, Helston	9 16 0	⅛	⅛ ⅛
20000	Elgar,* *s-l*, Cardiganshire	1 0 0	—	—
12500	Frongoch, *l*, Cardigan (11000 issued)	2 0 0	2¾	2¼ 2¾
10000	Frosterley,* *l*, Durham	1 0 0	1¾	1½ 1¾
3950	Gawton, *c*, Tavistock	4 5 6	⅜	⅛ ⅜
12000	Glan Clwyd,* *l*, Gwyddelwern	1 0 0	—	—
14000	Glenroy,* *s-l*, Isle of Man	4 5 0	⅝	⅜ ⅝
10000	Glyn,* *l*, Llanidloes	2 0 0	⅝	½ ⅝
12000	Goginan, & Level Newydd, Card., *l*	2 10 0	—	—
20000	Goreu,* *s-l*, Carmarthen	1 0 0	1	¾ 1
20000	Gt. E. Foxdale, *l*, I. of Man (*ll.* sh)	0 18 0	—	—
12000	Great Holway,* *l*, Flintshire	5 0 0	5	4½ 5
9500	Great Pant-y-Pydew, *l*, Holywell	2 0 0	—	—
6000	Gt. Wheal Eleanor, *t*, North Bovey	1 17 6	¾	⅜ ¾
6000	Great Wheal Rodd,* *s-l*, Cornwall	0 10 0	1	¾ 1
10000	Harehope Gill,* *l*, Durham (£1 sh.)	0 5 0	—	—
600	Hartington Moor,* *carb. l*, Derby	1 0 0	2	1½ 2
6400	Harwood,* *l*, Durham	0 15 0	¾	½ ¾
3000	Herodsfoot, *l*, near Liskeard†	1 0 0	4	3½ 4½
18000	Hingston Down, *c*, Calstock*†	0 6 0	¾	⅛ ¾
5000	Hush Elsteddfod Minera,* *l*	2 0 0	—	—
2500	Killaloe, *sl*, Tipperary[	1 0 0	—	—
6000	Killifreth, *t*, Chacewater	2 12 6	1¾	1½ 1¾
25000	Kingston Con., *s-l*, Stoke Climsland.	1 0 0	—	—
	Ditto, preference	1 0 0	1⅛	1 1⅛
12000	Ladywell,* *l*, Salop	2 10 0	1	¾ 1
12000	Ditto, 10 per cent. pref., *ll.* each	0 10 0	¾	¼ ¾
5000	Lead Era,* *l*, Mold	2 10 0	3¼	2¾ 3¼
2500	Levant, *c*, *t*, St. Just	10 14 6	—	—
1400	Lisburne Syndicate,* *l*, Card.	20 0 0	18	16 18
6000	Livingstone Consols, *t*, St. Agnes	0 10 0	1	¾ 1
10000	Lomax, *s-l*, Perranzabuloe	1 0 0	1¾	1 1¾
8120	Lovell, *t*, Wendron	0 16 0	2	1¾ 2
25000	Llanrhaiadr, *l*, Montgomery*	2 0 0	3	2 3
30000	Llanrwst,* *l*, Carnarvon	2 0 0	3	2 3
24	Mawston,* *l*, South Wales	50 0 0	2	1½ 2
6000	Medlyn Moor, *t*, Wendron	2 9 10	—	—
11000	Melyndwr, *l*, Cardigan*	3 0 0	1¾	¾ 1¼
7000	Mid Devon Copper*	0 6 8	1¾	1 1¾
21000	Ditto	0 2 6	1	¾ 1
8000	Mineral Corp. of Great Britain*	10 0 0	11	10 11
11000	Monydd Gorddu, *l*, Cardigan*(Red.)	5 0 0	2¾	2¼ 2¾
12000	Morfa Du, *s*, *g*, *s*, Anglesea	0 15 0	1	⅜ 1
25000	Nant-y-Ronen, *s-l*, Cardigan*	1 0 0	—	—
15000	Nascent Copper*	1 0 0	—	—
4768	New Bronfloyd,* *s*, Cardigan (*ll.* sh.)	3 16 0	3	2¼ 3
8000	New Dolcoath, *t*, *c*, Camborne*	3 0 0	1¾	1¼ 1¾
20000	New East Foxdale, *s-l*, Isle of Man.	0 15 0	—	—
1492	New Hendra, *t*, Breage	3 9 0	—	—
3200	New South Merllyn, *l*, Flint*	2 10 0	⅜	¼ ⅜
3500	New Tincroft,* *t*, Lelant	6 0 0	3	2¾ 3
4000	North Cornwall,* *l*, Cornwall	5 0 0	4	3 4
30000	North Laxey,* Isle of Man	1 0 0	4s.	2s. 4s.
2000	North Levant, *t*, *c*, St. Just[	12 16 0	1	¾ 1
50000	North Molton, *c*, *mn*, *i*, Devon	1 0 0	1	1
20000	North Prince Patrick,* *l*, Holywell.	1 0 0	—	—
5936	North Treskerby, *c*, St. Agnes	8 17 10	—	—
6400	Oola Hills,* *s-l*, Limerick	5 0 0	—	—
12000	Pandora,* *l*, Carnarvon	2 0 0	⅝	⅜ ⅝
6000	Park Valley,* *s-l*, North Devon	0 4 0	¾	⅛ ¾
6000	Parracombe, *s l*, Devon	0 5 0	⅛	⅛
16923	Parys Mountain,* *c*, Anglesea	3 0 0	⅜	⅛ ⅜
12000	Phœnix, & W. Phœnix, *t*, *c*, Link.§	5 10 3	—	—
4000	Pateley Bridge, *l*, Yorkshire	5 0 0	1¼	1 1¼
7000	Picton,* *s-l*, Holywell, fully paid	1 0 0	5	4½ 5
12000	Plynlimmon, *l*, Llanidloes*	2 0 0	6s.	4s. 6s.
10000	Port Nigel,* *s-l*, Carnarvonshire	2 0 0	⅜	¾ ⅜
2000	Prideaux Wood, *t*, Llanivery	5 0 0	—	—
5182	Prince of Wales, *c*, Calstock[	2 8 0	6d.	6d.
6000	Relistian Consols, *c*, Gwinear	0 10 0	¾	⅛ ¾
64	Rhydalun,* *l*, Mold	100 0 0	44	42 44
15000	Rookhope, *i*, Durham*	1 10 0	⅜	⅛ ⅜
4200	Snowbrook, *s-l*, Montgomery	5 0 0	—	—
6000	So. Cwmystwith, *l*, Cardiganshire.	2 0 0	3	2 3
6000	South Darren, *l*, Cardigan*	1 10 0	1½	1 1¼
30000	South de Eresby Mountain,	1 0 0	1½	1¼ 1½
6000	So. Devon United Copper*	1 0 0	1	¾ 1
512	South Dolcoath, *c*, *t*, Redruth	12 5 0	—	—
5000	So. Molton Cons., *s-l*, No. Devon	0 3 6	—	—
18000	South Roman Gravels, *l**	1 10 0	¾	⅛ ¾
6000	South Roskear, *t*, *c*, Camborne	8 5 0	—	—
6000	South Tolcarne, *t*, *c*, Camborne	2 5 6	¾	¼ ¾
937	South Wheal Crofty, *c*, Illogan	45 10 10	7½	7 7½
12000	Steddfa,* *l*, Cardigan	1 0 0	1¼	1 1¼
6000	St. Lawrence, Amal., *l*, Flintshire*	2 0 0	—	—
10000	St. Patrick, *i*, Halkin, Holywell*	1 0 0	1¼	1 1¼
6000	Success, &c., *l*, Derb. (12,000*l.* called)	1 0 0	—	—
16000	Sunnyside,* *l*, Durham	2 0 0	—	—
30000	Talybont,* *s-l*, Cardiganshire	1 0 0	—	—
40000	Tamar, *s-l*, Bearalston*	1 0 0	1½	1 1⅛
6400	Teesdale,* *i*, Durham	1 0 0	6s.	6s.
14000	Teign Valley, *i*, *bar*, Bridford	1 0 0	—	—
10000	Temple, *l*, Cardigan*	1 0 0	—	—
10000	Tolgus Consols,* *c*, Redruth	5 0 0	3½	3 3½
8000	Treleigh Wood, *t*, Redruth	6